THE DOCK & HARBOUR AUTHORITY

No. 158. Vol. XIV. DECEMBER, 1933

Editorial

Mersey Docks and Harbour Board: Annual Meeting.

The annual meeting of the Mersey Docks and Harbour Board was held recently and the report for the year ended July 1st, 1933, showed a very depressing year's trading. The revenue for the year showed a falling off of £145,573, chiefly due to a decrease in the receipts from rates and dues which amounted to £118,506. Since the 1st of July, however, there has been a substantial improvement in the revenue and the forthcoming year should, therefore, show better results.

The number of ships fell from 19,363 to 17,074, a decrease of 2,289, and the tonnage of ships fell from 19,080,728 to 18,758,839, a decrease of 321,889. This decrease is chiefly due to a large falling off in the Coastwise and Cross-Channel trade, there being a decrease of 2,087 ships in this trade as against only 202 in foreign trade.

Newcastle Quay Extension.

An interesting announcement has just been made to the effect that Mr. Walter Runciman, M.P., President of the Board of Trade, had accepted the invitation of the Newcastle Council to open the Newcastle Corporation Quay Extension on December 11. The opening of the extension will mark an important addition to shipping facilities at Newcastle. There will be greater accommodation for the larger type of cargo liner, as the depth of water alongside is to be 30-ft. This depth is more than was originally intended, but recently the Newcastle Trade and Commerce Committee decided to dredge the berths to give a depth of 30-ft. at low water, ordinary spring tides. The original proposal was to dredge to 25-ft. It is understood there are no engineering difficulties in the way of the proposed deepening, and that the additional cost is covered by the estimates. The extra quay accommodation afforded by the extension amounts to about 700-ft.

Alderman Walter Lee, chairman of the Corporation Trade and Commerce Committee, has been in communication with the local agents of the Commonwealth and Dominion Line. The company has intimated a desire to make Newcastle a regular port of call for their steamers engaged in the Australian trade. If this comes about, it will make a welcome addition to the river's trade.

Ribble Dock Undertaking.

On and about the Ribble Dock estate employment is provided for 1,550 men, either by the Corporation or by the 34 trading firms who have warehouses and depots there, and over £250,000 a year is paid in wages. There are obvious limits to the trading capacity of a channel that ends in a single dock with an area of 40 acres. Yet, some people consider that if and when more dock and wharfage space is needed, it will be a comparatively simple matter to convert the channel, below the Bull Nose seaward, into a tidal basin and to divert the natural land flow of the river to a shallow channel across the marshes to the Astlands. This would provide wharfage space at any point required along the 4½ miles of the tidal basin, which could be equipped with plant for loading and unloading and warehouse and storage space, if and when required. Virtually this development would make the channel a Ship Canal to the open estuary from Freckleton to Preston. It should be stated, however, that after 50 years more than half the gross cost of the undertaking is still unpaid.

It is just 50 years since the Preston Corporation bought the Ribble undertaking for £72,862. It was in 1865 that the Corporation resolved that it was desirable that dock accommodation should be provided at Preston, and considered plans by Mr. Garlick for a 31-acre dock at an estimated cost of £40,000. A report on the project was obtained from Messrs. Bell and Miller, of Glasgow, engineers to the Clyde Navigation Trust, and others, which resulted in a proposal for a Joint Board based on an equal number of members from the Corporation and the company then in existence, the gross income to be disposed of in the proportion of £675 out of every £1,000 to the company and £325 to the Corporation. These sums were calculated upon the income of the Corporation from their quays and of the company from their lands and properties. In 1879 a memorial was signed by 4,964 ratepayers of the borough, requesting the Corporation to consider the improvement and development of the river. The Ribble Company offered the whole property to the Corporation for £75,000, and before the end of 1882, the two bodies came to an understanding for the transfer of the undertaking to the Corporation for £72,500. The foundation stone of the dock was laid by the Prince of Wales (afterwards King Edward) and the dock was opened for traffic on June 25th, 1892, by the Duke of Edinburgh, and named the Albert Edward Dock.

Ribble Dock undertaking has yielded an increased revenue for the six months ended September 30th of £14,262. During that period imports were up 55,959 tons, although there was a decrease in exports of 10,495 tons, which was chiefly accounted for by the restrictions existing between this country and the Irish Free State. Timber imports were up 20,656 tons—there was an increase of 12,000 tons of Canadian timber, though there was less timber from Russia—and motor spirit was up 16,316 tons. The decrease of coal and coke exports were 16,539. Schemes are under consideration for two new roads at the Dock. One proposal is to make a new entry into the Dock, a safe road for the enormous amount of motor traffic being dealt with there at the present time. The proposed scheme will cost £5,600 and employ 50 men for thirteen weeks.

Colombo Port Trust Scheme.

This question has been in abeyance ever since a committee, appointed by the Ceylon Government, had by a majority report recommended the formation of a port trust for Colombo two years ago.

The grounds upon which the project is being urged once more are reported to be:—

(1) That the interests of the port have suffered seriously in the past two years as a result of the depression.
(2) That many improvements are urgently necessary, and cannot be made under a system where port and harbour dues are credited to revenue; and
(3) That, therefore, the early establishment of a port trust is urgently needed if the prestige and serviceableness of Colombo Harbour are to be maintained in the face of the increasing demands of modern shipping.

It is urged by the interests concerned that a thorough overhaul of the whole port and its amenities should be carried out by an expert from England or India as a preliminary to the establishment of a port trust.

The methods of handling cargo, it is suggested, should be completely modernised by the introduction of the latest machinery for handling cargo. The existing warehouse accommodation is criticised on the ground of its being old, obsolete and unsuited to present needs. As regards the loss which general revenue would suffer by the formation of a port trust, various suggestions are made to meet it. According to the revenue estimates for the current year, the estimated revenue from port, harbour, wharf, warehouse and other dues is reckoned at Rs.5,310,000. The suggestion is that the lowering of the income tax basis to incomes of Rs.2,400 per annum and over would meet all or most of the deficit which would result from the allocation of port and harbour dues, etc., towards the funds of a port trust.

*The Port of New York**

Value of Foreign Trade at the Port of New York.

For the third consecutive month, the value of foreign trade at the Port of New York shows an upward swing. The net change as compared with the same periods last year were: June + 14 per cent.; July + 52 per cent.; August + 70 per cent. As in the two previous months, the gain was most pronounced in the imports.

The value of foreign trade at New York in August, 1933, amounted to $127,095,000, as against $74,709,000 in August, 1932. Exports were $43,257,000, a gain of 37 per cent. over the 1932 figure of $32,623,000, while imports were $83,838,000 as compared with $43,086,000 in August of last year, a gain of 95 per cent.

Value of Foreign Trade at the Port of New York.

	August		Net Change	
	1933 $	1932 $	Amount $	Per Cent.
Exports	43,257,000	31,623,000	+11,634,000	+36·8
Imports	83,838,000	43,086,000	+40,752,000	+94·6
Exports and Imports	127,095,000	74,709,000	+52,386,000	+70·1

For the eight months, January-August, the value of foreign trade at the Port of New York amounted to $754,624,000 which is 2 per cent. below that of the same period last year.

	January-August		Net Change	
	1933 $	1932 $	Amount $	Per Cent.
Exports	301,607,000	323,772,000	−22,165,000	−6·8
Imports	453,017,000	448,076,000	+4,941,000	+1·1
Exports and Imports	754,624,000	771,848,000	−17,224,000	−2·2

The impending negotiations in regard to trade relations with Soviet Russia are of special interest to shipping circles at the Port of New York, since trade with that country in the past moved largely through this port. The following tabulation shows the value of exports to Soviet Russia as a whole for the past five years and for the first six months of 1933. The resumption of this trade, which has fallen off considerably since 1930 will do much to increase the business of the Port of New York.

Value of Exports to Soviet Russia.
From all United States Ports and the Port of New York.

	United States	New York	Per cent. N.Y. of U.S.
1928	74,091,235	25,181,052	34·0
1929	85,011,847	49,358,422	58·1
1930	114,398,537	102,052,080	89·2
1931	103,716,832	95,343,563	91·9
1932	12,640,891	11,929,819	94·4
January-June, 1933	2,577,435	2,514,925	97·6

The very decided increase in imports into the United States during recent months is causing considerable interest particularly among manufacturers of domestic products. In a recent letter to President Roosevelt, requesting that the Treasury Department be instructed to make available to industry all information about current imports, Robert L. Lund, president of the National Association of Manufacturers states, "The N.R.A. can never succeed unless imports produced on long hours at low rates of pay are controlled." A discussion of import commodities of the present is therefore opportune.

The value of imports into all United States ports in August, 1933, was $154,976,000 as against $91,102,000 in that month last year, an increase of 70 per cent. Import figures for New York in the same period were $83,838,000 in 1933 in comparison with $43,086,000 last year, an increase of 95 per cent. The imports at New York constituted 47 per cent. of that of all United States ports in August, 1932, while in August of this year it amounted to 54 per cent.

Vessel Movements in Foreign Trade.

While the entrances and clearances of vessels in foreign trade at the Port of New York in the month of September, 1933, were less than in the previous month, they were greater than in September, 1932. Entrances were 5 per cent. and clearances 6 per cent. greater than last year.

	September		Net Change	
	1933	1932	Amount	Per Cent.
Entrances, No. of Vessels ...	426	406	+20	+4·9
Clearances, No. of Vessels ...	488	421	+27	+6·4
Entrances, Net. Reg. Tonnage	2,353,891	2,276,796	+77,095	+3·4
Clearances, Net. Reg. Tonnage	2,361,613	2,319,929	+41,684	+1·8

The cumulative figures for the nine months, January to September, 1933, show that the number of entrances and clearances were 8 per cent. and 6 per cent. respectively, less than in the same period last year.

	January to September		Net Change	
	1933	1932	Amount	Per Cent.
Entrances, No. of Vessels ...	3,675	3,982	−307	−7·7
Clearances, No. of Vessels ...	3,845	4,081	−236	−5·8
Entrances, Net Reg. Tonnage	19,614,260	20,996,950	−1,382,690	−6·6
Clearances, Net Reg. Tonnage	20,053,622	21,096,863	−1,043,241	−4·9

Commerce at Port Newark.

The activities at the wharves of Port Newark, which is a part of the Port of New York, continue to be greater than last year, the volume of waterborne receipts in August and September, 1933, being 114.0 per cent. and 58 per cent. respectively above the same periods in 1932. The volume of lumber discharged from steamers and lighters in August, 1933, was 15,254,000 board feet as against 7,867,000 feet in the same month last year, a gain of 94 per cent. and 19,735,000 feet in September, 1933, compared with 7,104,000 feet in that month in 1932, a gain of 178 per cent. Lumber shipped inland out of Port Newark in August was 11 per cent. less than in the same period last year, but the September shipments, amounting to 16,757,000 board feet, were 30 per cent. greater than in September, 1932. Of the above amount of 7,818,000 feet were moved by rail, and 8,939,000 feet were shipped by truck.

Water-borne Receipts at Port Newark.

	August		Net Change	
	1933	1932	Amount	Per Cent.
All Commodities (tons)...	47,153	22,045	+25,108	+113·9
Lumber (board feet) ...	15,253,878	7,866,861	+7,387,017	+93·9
Other than lumber (tons)	24,272	10,245	+14,027	+136·9

	September		Net Change	
	1933	1932	Amount	Per Cent.
All Commodities (tons)...	47,900	30,289	+17,611	+58·1
Lumber (board feet) ...	19,735,171	7,104,242	+12,630,929	+177·8
Other than lumber (tons)	18,297	19,633	−1,336	−6·8

The number of steamers arrived at Port Newark in August, 1933, was 42 as compared with 27 in that month last year, while in September the number was 38 as against 24 in September,

A substantial increase in waterborne receipts is shown for the first nine months of the year, both in volume of lumber and cargo other than lumber, over the same period in 1932.

Water-borne Receipts at Port Newark.

	January-September		Net Change	
	1933	1932	Amount	Per Cent.
All Commodities (tons)...	375,064	278,174	+96,890	+34·8
Lumber (board feet) ...	111,084,419	82,330,861	+28,753,558	+34·9
Other than lumber (tons)	225,736	154,677	+71,058	+45·9

Immingham Dock Statistics.

During the month of October a total of 108 vessels representing a net registered tonnage of 113,607 used Immingham Dock, including 18 vessels totalling 17,728 net registered tons using the Western Jetty coaling berth; as compared with October, 1932, when 138 vessels totalling 145,126 net registered tons used the port, including 18 vessels totalling 21,326 net registered tons using the Western Jetty.

Work on the River Weser.

In addition to the sum of 1,000,000 Rm. granted to the Waterways Direction in Hanover for regulation of the Weser, a further sum of 700,000 Rm. has been made available from the programme for the creation of work. This has no connection with the canalisation of the Weser, which is said to be required for the Weser shipping and Bremen's traffic with the Mittellandkanal.

With the funds now made available regulation of the river bed of the Weser between Munden and Bremen is to be undertaken with the object of increasing the depth of water in the fairway and of eliminating stretches where there is a strong current, and thus generally to improve shipping conditions on the river.

This regulation of the Weser is supplementary to the reservoir constructions which were commenced before the war in the district of the source of the Weser. Water is supplied from the two basins of the Eder reservoir of 202 million cubic metres content and the Diemel reservoir of 20 million cubic metres water capacity, when water conditions are poor on the Upper Weser. The supply from these reservoirs, however, is not enough to allow full loading to be undertaken on the Weser. As the building of further reservoirs in this region is impracticable, it is claimed that efforts must be made to form the low water bed of the Weser so that as great a fairway depth as possible is attained. According to plans drawn up by the Waterways Direction of Hanover, a minimum fairway water depth of 1.10 metre between Munden and Minden and of 1.25 to 1.40 metre between Minden and Bremen is to be created.

* Reproduced by kind permission of "Shipping Register and World Ports," Montreal and New York.

Port of Southampton Topics

October Proves a Good Month.

October was a good month for Southampton Docks. The statistics for the month issued by the Southern Railway show that compared with returns for the corresponding period last year the number of vessels inward fell from 243 to 222, and outward from 241 to 216 respectively. But the tonnage figures advanced in a manner which must be regarded as highly satisfactory.

The inward gross total advanced from 1,240,496 to 1,523,286, an increase of 282,790 tons, whilst outward the total was 1,361,542 as against 1,074,200 in October, 1932, or an advance of 287,342 tons.

The net tonnage increases were 132,008 tons inward, and 138,565 tons outward. The inward total was 789,726 tons as compared with 657,718 tons, and outward 717,130 tons as against 578,565 tons.

The improvement in the cargo position of the port, shown in recent returns, was well maintained during October, both imports and exports showing an increase. The freight inward totalled 58,355 tons, which was 6,619 tons more than in October, 1932, when the figure was 51,736 tons. The position as regards outward cargo was equally satisfactory, for the increase amounted to 4,099 tons, the total last month being 31,466 tons as against 27,367 tons.

The passenger returns, which have shown an increase in past months fell during October, the inward total by 1,553, and outward by 402. The number arriving was 11,690, as compared with 13,243, and departing 13,161 as against 13,563. Troop movements, which were heavier in September, 1933, than in the previous year, fell in October, when the total was only 3,238 outward as against 5,002—a decrease of 1,764.

"Empress of Britain" to be Overhauled at Southampton.

The Canadian Pacific liner "Empress of Britain" finished a busy season on the Canadian service during November, and will remain at Southampton for overhaul before starting a winter cruising programme in mid-December.

During the 1933 season, which began on May 3rd, the "Empress of Britain" has spent 135 days at sea, and travelled 73,727 nautical miles. Since the end of July the ship has completed a series of eight round voyages between Southampton and Quebec, and during that time she has never spent more than 48 hours in port on either side of the Atlantic. She crossed the Atlantic 16 times in 108 days.

During the season the ship has carried 11,475 passengers, of whom 3,214 were first class, 3,782 tourist, and 4,479 third class.

Captain R. G. Latta, commander of the ship, said the vessel has passed Bishop's Rock with such regularity that people in that part of the land were said to be timing their clocks by the passing of the ship.

Radio Beacon for Southampton?

For some years Southampton Harbour Board have been pressing Trinity House to install a radio beacon at the Nab Lighthouse, and so aid navigation in the approaches to Southampton which are outside the Board's jurisdiction.

The matter seems likely to be settled now and the beacon installed. The Elder Brethren of Trinity House wrote, in reply to the Board's letter urging the provision of the beacon, that they realised the extent to which traffic making for Southampton had increased in recent years, particularly as regarded large passenger liners. They stated that they would be prepared to give favourable consideration to the scheme provided the Harbour Board made a substantial contribution towards first cost and maintenance.

The Harbour Board have agreed to offer £1,000, which is half the first cost, provided the beacon is installed forthwith and the range increased to 30 or 35 miles, so as to serve both entrances to Southampton Water. The Harbour Board are to inform Trinity House that they cannot undertake any payment for maintenance.

Bombay Port Trust

At a meeting of the Trustees of the Port of Bombay held on 24th October, 1933, a report on the revenue for the first half year ended 30th September, 1933, was considered. Total receipts for this period amounted to Rs.121.70 lakhs, an actual improvement of Rs.7.28 lakhs over the corresponding figure for the previous year. The volume of imports and exports increased by over half a million tons to 2,581,012 tons while the tonnage of shipping which entered and left the port, excluding ferry steamers, Government vessels and country craft, increased by 439,999 tons to 5,741,192 tons (net register) as compared with the corresponding returns for 1932.

The following expenditure estimates were approved:—

Rs.16,550 for providing modern fittings and refracted directive glasses to the electric lights in the Docks and on certain heavy traffic roads, in order to improve the light intensity and reduce the recurring expenditure on current and renewals.

Rs.48,350 for renewing the roof sheets of E shed, Grain Depot, as part of a forward programme for renewing the roofs of all the Depot sheds as and when required.

Rs.14,000 for special repairs to the steam tug "Ready" in accordance with survey requirements.

Amendments of the Docks Scale of Rates were approved (1) reducing the charge from Rs.4-8-0 to Rs.1-12-0 per night for cluster lights used for illuminating ships' gangways; and (2) defining the circumstances in which goods may be exempted from extra fees if detained by the Customs for special examination involving analytical or technical tests.

Imports and exports at the Port of Bombay:—

	1932 Quarter ended 30th September			1933 Quarter ended 30th September		
	Import Tons	Export Tons	Total Tons	Import Tons	Export Tons	Total Tons
Docks ...	387,520	320,847	708,367	403,726	507,258	910,984
,, (transshipment)	38,078	25,236	63,314	66,542	41,814	108,356
Bunders ...	141,995	25,223	167,218	178,318	21,880	200,198
Total ...	567,593	371,306	938,899	648,586	570,952	1,219,538
Total from 1st Apr. to 30th Sep.	1,303,387	776,750	2,080,137	1.463,255	1,117,757	2,581,012

Vessels other than ferry steamers, hired transports, Government vessels and country craft, which entered the Port of Bombay:—

	Quarter ended 30th September, 1932 No.	Net Register Tonnage	Quarter ended 30th September, 1933 No.	Net Register Tonnage
Vessels engaged in foreign trade ...	192	851,221	221	980,396
Vessels engaged in coasting trade ...	250	379,815	232	396,175
Total from 1st April to 30th Sept. ...	1,140	2,650,413	1,211	2,885,765

Developments at the Port of Bristol

Trade is improving! Markets are gradually becoming more steady, and as a consequence merchants are buying with greater confidence. This sign of a return to better times is further evidenced by the many new industries and extensions that are springing up throughout the country. Big developments are taking place at the Port of Bristol, particularly in the oil and milling trades. A large oil installation recently erected at Avonmouth is now in full operation, while great progress has been made in the construction of two large flour and grist mills on the dock estate. At the Portishead dock a plant for the production of road spraying material on a large scale is also nearing completion. In the City itself there is to be found abundant evidence of this new confidence in many ambitious extension schemes which are now taking place.

Bristol's excellent geographical position and the advantages to be gained by location near a modern port are factors which are making a strong appeal to manufacturers and distributors.

At the annual inaugural meeting of the Port of Bristol Authority, Alderman Edward M. Dyer was again elected chairman for the ensuing year. Following his election, Ald. Dyer quoted figures showing that in spite of the general slump the trade of the Port continues to expand. The tonnage of shipping and goods entering the docks for the first half of the present financial year shows a considerable advance compared with the corresponding period of the previous year.

Near Eastern Port Matters

ACCORDING to statistics which have just been published by the Statistique Général de la Grece, shipping at Greek ports during the first six months of 1933 included the arrivals of 1,470 ships representing 2,593,639 n.r.t. and the clearance of 1,178 ships representing 2,146,135 n.r.t. against 1,435 ships arrived representing 2,496,280 n.r.t. and 1,006 ships cleared representing 1,921,497 n.r.t. in the corresponding period of 1932. There has been a revival in Greek shipping due mainly to the improved economic situation of the country. The position of the various countries participating in Greek shipping is shown in the following figures:—

	ARRIVALS				CLEARANCES			
	1933		1932		1933		1932	
	No.	N.R.T.	No.	N.R.T.	No.	N.R.T.	No.	N.R.T.
American	12	42,421	15	52,344	15	54,535	12	39,692
British	87	186,784	110	228,752	62	114,811	69	98,606
Dutch	23	45,695	31	57,724	22	24,887	17	24,372
French	38	127,913	60	199,925	35	128,684	54	198,853
German	47	100,322	44	80,747	46	74,838	38	83,676
Greek	413	418,139	388	381,093	217	201,371	143	139,522
Italian	501	1,169,416	471	1,059,736	476	1,058,277	411	910,885
Roumanian	73	102,000	67	81,190	73	100,252	59	74,263

The Italian Mercantile Marine has continued to occupy first place in Greek shipping both in respect to arrivals and clearances, followed by the British flag, the French flag, and the Roumanian flag, etc. As far as arrivals are concerned, the largest increase has been shown by the Italian flag, this being chiefly due to the large number of Italian liners which called at Pireaus on pleasure cruises. The largest increase in clearances is shown by the Italian flag, followed by the Roumanian, British and American flags. The French flag has lost considerable ground in Greek waters during the first six months of 1933, owing chiefly to the decrease in sailings of the regular mail services. The situation of shipping in the various Greek ports during the period from January to June, 1933, is summarised in the following figures:—

	JANUARY-JUNE 1933				JANUARY-JUNE 1932			
	Arrivals		Clearances		Arrivals		Clearances	
	No.	N.R.T.	No.	N.R.T.	No.	N.R.T.	No.	N.R.T.
Volos	9	15,971	16	18,190	28	30,629	10	10,856
Heraclion	30	37,471	49	61,348	24	31,457	24	45,111
Salonika	68	80,883	83	120,946	79	113,806	70	119,541
Cavalla	14	23,728	4	4,038	24	34,598	8	9,622
Calamata	20	21,309	49	52,154	21	23 509	33	26,902
Corfu	122	170,112	111	148,076	143	201,920	115	164,676
Mytilene	47	45,689	35	58,539	66	35,270	29	39,761
Patrass	99	245,939	74	254,313	93	224,269	58	202,881
Pireaus	801	1,743,943	565	1,193,009	837	1,669,387	563	1,153,426

Arrivals have shown an increase at Heraclion, Mytilene, Patrass and Pireaus, while clearances have shown an increase at Volos, Heraclion, Calamata, Mytilene, Patrass and Pireaus. There has also been a slight improvement in clearances from Salonika. It should be considered that the crisis in the tobacco trade still renders the situation of shipping at North Aegean Greek ports such as Alexandropolis, Cavalla and Salonika rather difficult. This explains why the Greek Government is now greatly concerned in its efforts to convince the Bulgarian Government to rent a free zone in the Port of Salonika. There is no doubt that the negotiations, which are still going on, may have considerable influence in connection with the harbour enlargements to be carried on at Salonika, as there is no doubt that unless new quayage is built, the Bulgarian free zone could not exist. It is stated that as soon as the negotiations between Bulgaria and Greece are concluded, the Greek Government would grant the necessary funds to allow these enlargements to be undertaken.

In connection with the position of foreign flags at the various Greek ports during the first two quarters of 1933, it may be interesting to note that at Pireaus the position of the British flag has shown no improvement, since 43 ships have arrived representing 102,377 n.r.t. against 68 ships representing 157,976 n.r.t. during the corresponding period of 1932, and 5 ships representing 13,540 n.r.t. cleared against 25 ships and 38,836 n.r.t. However, if the figures regarding the British flag at Pireaus during the month of June, 1933, only are taken into consideration it will be noted that there has been an improvement, which if continued may alter the final position of the British flag in Greek waters during 1933. The situation of other foreign flags at Pireaus reflects the situation of Greek shipping as a whole. At Patrass the British flag has lost ground in respect to 1932, and this is due to the fact that many British ships have started calling at Corfu instead of Patrass, and the position of the British flag at Corfu has improved in the same way as it has at Heraclion and Salonika.

The question of building a port in the bay of Corfu is being seriously considered, as well as the enlargement of the harbour facilities at Samos.

The harbour enlargements which are being carried on at Mersina and Alessandretta have induced the Chamber of Commerce at Beyrouth to take up the question of the construction of new quayage with sheds at that port. It would appear that about 1,000 metres of new quayage are to be built within the next three years, and that two sheds of about 4,000 cubic metres each are to be built, as soon as the quayage is completed.

Port of London Notes

During the week ended October 27th, 950 vessels, representing 934,771 net register tons, used the Port of London. 497 vessels (760,267 net register tons) were to and from Empire and Foreign ports and 453 vessels (174,504 net register tons) were engaged in coastwise traffic.

* * * *

During the week ended November 3rd, 1,122 vessels, representing 926,197 net register tons, used the Port of London. 504 vessels (754,123 net register tons) were to and from Empire and Foreign ports and 618 vessels (172,074 net register tons) were engaged in coastwise traffic.

* * * *

During the week ended November 10th, 1,017 vessels, representing 1,018,462 net register tons, used the Port of London. 550 vessels (805,249 net register tons) were to and from Empire and Foreign ports and 467 vessels (213,213 net register tons) were engaged in coastwise traffic.

* * * *

During the week ended November 17th, 1,006 vessels, representing 899,589 net register tons, used the Port of London. 468 vessels (680,188 net register tons) were to and from Empire and Foreign Ports and 538 vessels (219,401 net register tons) were engaged in coastwise traffic.

Tilbury Passenger Landing Stage.

Twenty-nine vessels, totalling 302,782 gross register tons, used the Tilbury Passenger Landing Stage during the month of October, 1933.

Altogether 4,539 passengers were embarked or disembarked at the Stage, in addition to baggage and mails.

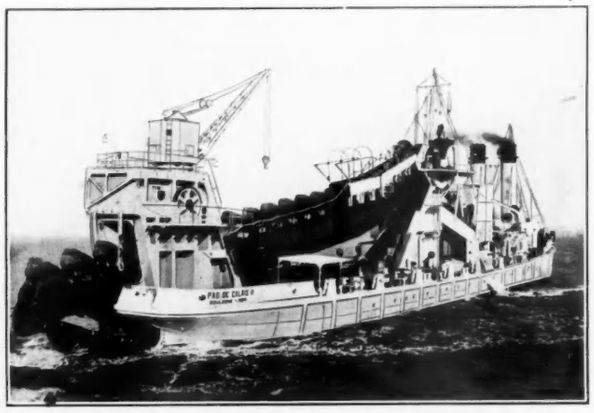
Increase in Shipping using the Port of London.

The Port of London's shipping at 29,055,695 net register tons for the six months ended 30th September, represents an increase of 8 per cent. over the corresponding period last year.

During this same period the increase in the shipping using all United Kingdom ports was 2.9 per cent.

New Dredger for the Port of Boulogne

The photograph shows the bucket dredger "Pas-de-Calais II.," built by the "Ateliers et Chautiers de France" at Dunkirk, France, for the port of Boulogne. The lines of this powerful dredger have been designed to render it fully seaworthy and capable of travelling along the coasts of France. Propulsion is effected by two engines of 550 h.p. each, either of which can be used for dredging. The boilers are fired with either pulverised coal or fuel oil. The buckets are of 900 litres (1 cubic yard) capacity. The dredger can excavate to a depth of 23 metres (75 feet) below water level.

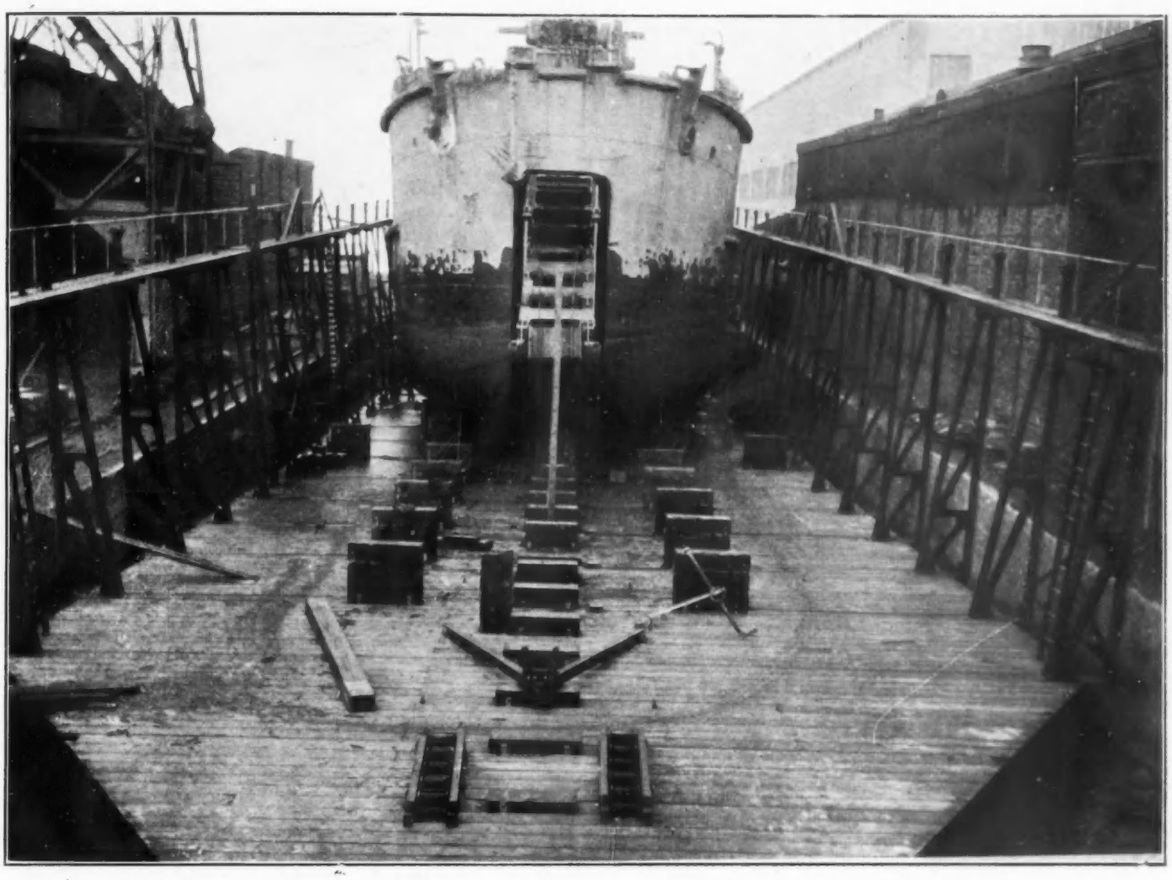


Photo] *The New Dredger "Pas-de-Calais II."* [Cayez, Dunkirk

The leading dimensions of the dredger are these:—

Length: 62.80 m. (206-ft.); Beam: 12.95 m. (42-ft. 6-in.); Depth: 3.25 m. (10-ft. 8-in.); Engines: Two of 550 h.p. each; Dredging depth: 23 m. (75-ft.).

1,500-ton Railway Dry Dock constructed at Boulogne, France



Dredger "Bassure de Baas" on the 1,500-ton Railway Dry Dock. View forward.

BOULOGNE-SUR-MER is the principal fishing port of France and an important port of call. It is the home port of over 130 steam and motor trawlers, and well over 150 smaller fishing craft, hand liners and drifters. These require dry docking facilities for cleaning, painting and repairs. For some time these facilities comprised a 1,200-ton floating dock built in 1912, a 1,000-ton English-type slipway built in 1903, and three grids for grounding at low tide. Due to the size and demands of the fleet these facilities were found to be insufficient, so that the Fishing Owners' Association and the Chamber of Commerce urged the Government to provide additional dry-docking equipment. After considerable study and investigation of proposals submitted by several concerns, the Government engineers and the Department of Public Works decided to construct a railway dry dock of 1,500 metric tons capacity. This has recently been completed and put in operation.

This railway dry dock is of a type in use in America for over 80 years, although rather little known in Europe, which resembles the orthodox slipway only in the use of the principle of the inclined plane. Actually, it is a completely-equipped dry dock, moving on an inclined track. The tracks are of the two-way type, laid down along the surface of a cylinder of appropriate radius of curvature, and are 180 metres (590-ft.) long. The section above low water is of reinforced concrete supported by concrete piles, while the submerged portion is of azobé (a non-decaying and worm-proof wood from the Cameroons about three times as strong as white oak) supported by piles of greenheart. The concrete piles were driven with a 5-ton steam hammer about 20-ft. into compact sand and gravel for a safe load of 40 tons, and the greenheart piles were driven with a 1½-ton drop hammer about 15-ft. into the same material for a safe load of 25 tons.

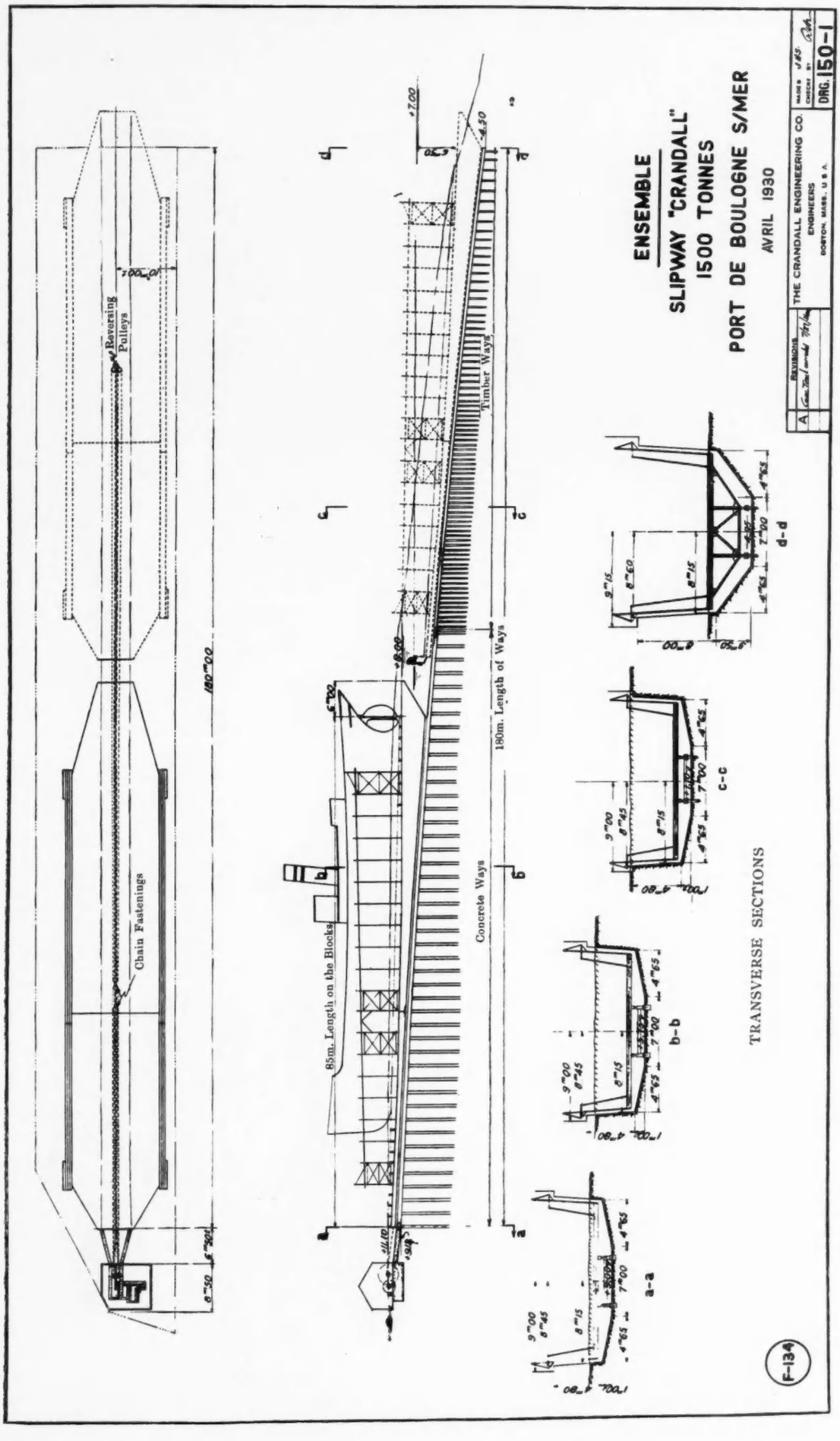
The greenheart piles were cut off under water along the line of proper curvature. Meanwhile, the track of azobé was constructed as a unit ashore and, when ready, was floated over the piles, sunk into place, carefully aligned, and then fastened by the diver. This method eliminated the necessity and expense of a cofferdam. It required exceedingly careful work and close supervision to assure accurate location of the tracks to the proper curvature and to line, within the small tolerance allowable.

The cradle is 85 metres (280-ft.) long over keel blocks and 15.5 metres (51-ft.) wide. The tidal range at Boulogne being as much as 30-ft., with a variation of 10-ft. between spring and neap high tides, it was important to have the deck of the cradle

Trawler-Freezer "Jean Hamonet" entering the 1,500-ton Railway Dry Dock.

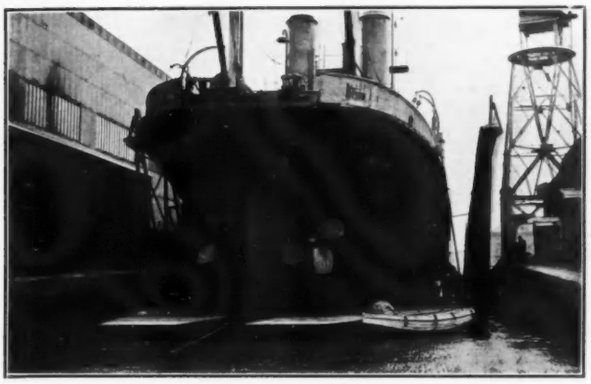
clear of water at practically all times so as not to interfere with any work, and at the same time to provide sufficient depth of water over the keel blocks for dry docking at neap tides. To do this in the limited length available, the slope of the line of

1,500-ton Railway Dry Dock constructed at Boulogne, France



1,500-ton Floating Dry Dock constructed at Boulogne, France—continued

keel blocks was established quite independent of that of the tracks and the radius of the latter so chosen, that when the cradle is in the outer position, the slope of the line of keel blocks approximates the usual trim of trawlers, giving a depth over the keel blocks of 1.7 metres (5.6-ft.) forward and 6.5 metres (21.5-ft.) aft, and, that when the cradle is in the upper position, the deck is above the usual level of spring tides. The cradle is decked over its entire width for the full length to provide a convenient working platform, which at the after-end extends 6 metres (19.6-ft.) beyond the keel blocks to facilitate repairs to propellers and rudders.



Dredger "Bassure de Baas" on the 1,500 ton Railway Dry Dock.

The cradle is divided into two sections, the upper one 35 metres (115-ft.) and the lower one 50 metres (165-ft.) long, arranged so that a vessel may be dry docked on the upper one and the lower operated independently. There are 18 sliding bilge blocks on each side of the cradle, operating by means of galvanised chains and hand winches arranged along the docking platforms. These docking platforms, which are supported by braced steel uprights, are placed on each side of the cradle to permit ready centering and docking. The cradle is constructed of structural steel, the deck and docking platforms being of creosoted Douglass fir.

The cradle moves over the track on a system of free rollers, the lower sides of the cradle runners and the upper sides of the track being equipped with flat steel plates between which the rollers operate. By this means, the friction is minimized and the necessity for lubrication entirely eliminated.

The cradle is hauled by two hauling chains arranged on an endless system, operated by an electric hauling machine. The hauling chains, of heat-treated manganese cast steel, without welds, pass over toothed sprocket wheels on the main shaft of the machine and then back along the track. The lower end of each is attached to a smaller backing chain, which passes through a submerged sheave, then returns on itself and the other end fastened to the cradle. The hauling machine is sufficiently powerful to haul a capacity load in 20 minutes.

Dredger "Bassure de Baas" entering the 1,500-ton Railway Dry Dock.

This railway dry dock was designed and constructed by The Crandall Engineering Company, of Boston, Massachusetts, U.S.A., which has installed over 175 of this type. The necessary retaining walls and concrete work were carried out with the collaboration of Etablissements Sainrapt and Brice, Paris. The project was for the French Ministry of Public Works under the responsible charge of Monsieur M. Outrey, Chief Engineer, and Monsieur de Viry, Engineer of New Construction, of the Administration des Ponts et Chaussées. The commercial operation and management is under the Port Facilities of the Chamber of Commerce of Boulogne-sur-Mer, of which Monsieur Lavocat is President and Monsieur Pruniéras the Secretary-General.

The Port of Halifax

Shipping.

During the month of August, 1933, a total of 425 vessels entered and cleared the Port of Halifax as compared to 424 for August, 1932, and 530 for August, 1931. The net registered tonnage is reported at 460,770 tons as compared to 724,478 tons for August, 1932, and 1,001,675 tons for August, 1931. The number of vessels engaged in the Trans Oceanic service entering and clearing during the month of August, 1933, totalled 164 as compared to 158 for August, 1932, and 137 for August, 1931. The number of vessels engaged in the Coastwise trade entering inward and outwards totalled 261 as compared to 276 for August, 1932, and 393 for August, 1931.

The decrease in the net registered tonnage is largely accounted for by the decrease in the number of passenger liners engaged in the international coastwise passenger cruises from United States ports. The number of arrivals and departures in the Trans Oceanic service for the month of August constitutes a record for the past three years, the decrease taking place in the Coastwise traffic.

Since January 1st, 1933, the total number of vessels arriving and departing at the Port of Halifax is reported at 3,680 as compared to 3,691 for the same period of 1932, and 3,702 for the first eight months of 1931.

Cargo Tonnage.

With an increase of 84 per cent. in the volume of cargo tonnage handled over the Harbour Commissioners' properties and an increase of 50 per cent. in the volume of tonnage handled over the privately-owned properties, the total of 172,376 tons constitutes an all-time record for the month of August, and is exceeded only in the past three years by the month of January, 1932, with a total of 172,947 tons. The total cargo tonnage reported for the Port of Halifax for the first eight months of the year totalled 1,053,834 tons as compared to 1,040,097 tons for the same period of 1932 and 1,063,888 tons for 1931.

Shipping.

During the month of September, 1933, a total of 498 vessels entered and cleared the Port of Halifax as compared to 446 for September, 1932, and 593 for September, 1931. The net registered tonnage is reported at 688,572 as compared to 648,630 tons for September, 1932, and 766,090 tons for September, 1931. The number of vessels engaged in the Trans Oceanic service entering and clearing during the month of September, 1933, totalled 135 as compared to 136 for September, 1932, and 151 for September, 1931. The number of vessels engaged in the coastwise trade entering and clearing during the month of September, 1933, totalled 363 as compared to 310 for September, 1932, and 432 for September, 1931.

Since January 1st, 1933, the total number of vessels arriving and departing at the Port of Halifax is reported at 4,178 as compared to 4,137 for the same period of 1932, and 4,285 for the first nine months of 1931.

Cargo Tonnage.

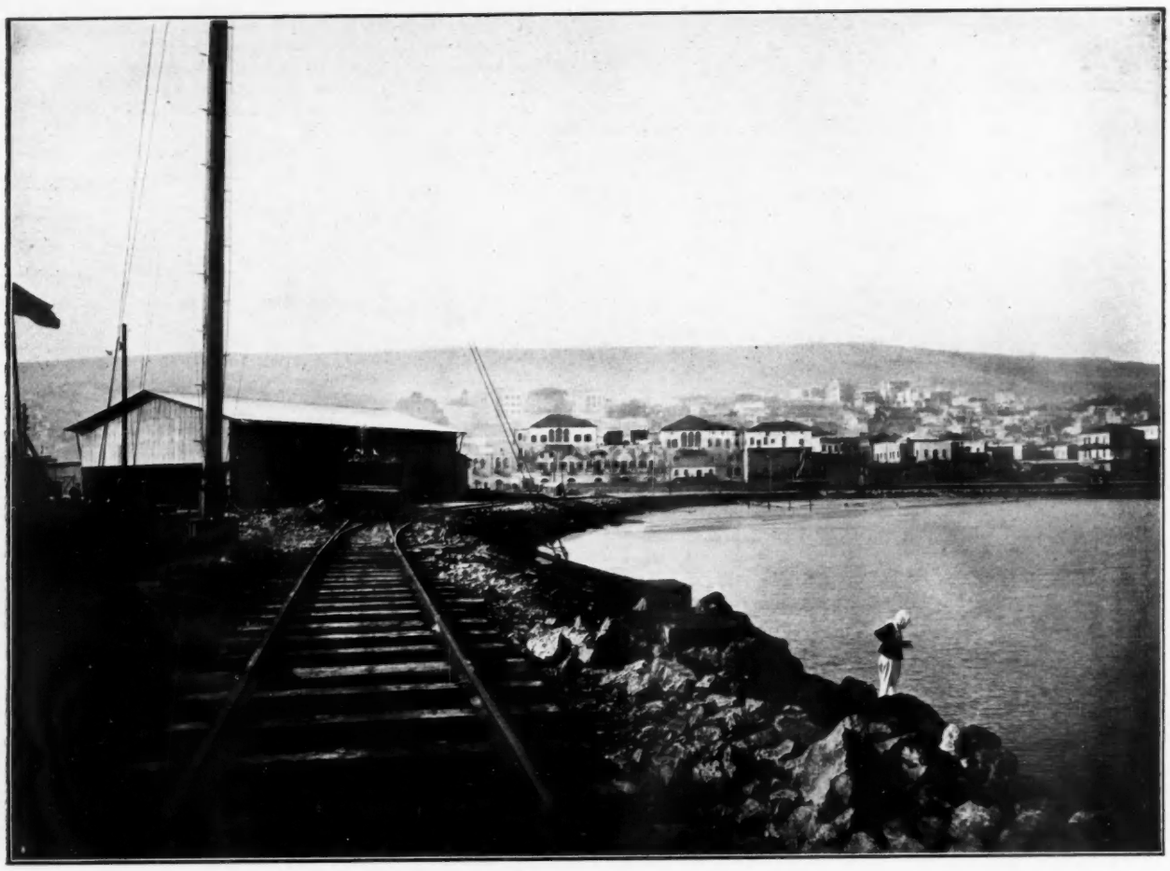
The total cargo tonnage handled inward and outward during September, 1933, is reported at 127,813 tons as compared to 119,352 tons for September, 1932, and 134,332 tons for September, 1931. The total cargo tonnage reported for the first nine months of the year for the Port of Halifax totalled 1,186,581 tons as compared to 1,159,449 for 1932, and 1,198,220 for 1931.

Passengers and Mail.

The total number of passengers landed and embarked at the Port of Halifax during the month of September, 1933, is reported at 10,229 as compared to 10,988 for September, 1932. Since January 1st, the passenger traffic is reported at 28,110 as compared to 53,205 for the first nine months of 1932.

The quantity of mail handled during the month of September, 1933, is reported at 208 bags as compared to 165 for September, 1932. For the first nine months of 1933, 68,025 bags of mail were handled as compared to 72,124 for the same period of 1932.

The Harbour of Haifa, Palestine



A Temporary Railway for the Works was Constructed, running along the Foreshore from West to East of the Harbour. This photograph shows the Eastern Terminus on the Railway Jetty before a commencement was made on the construction of the Lee Breakwater.

South Quarry Face looking North. Maximum Height of Working Face, 38-ft. above Quarry Floor.

The Harbour of Haifa, Palestine

New Harbour for Palestine officially opened on October 31st, 1933

General View of the Breakwater and Rubble Dyke in 1930.

IN 1922, on behalf of the Government of the Mandated Territory, the Crown Agents for the Colonies commissioned Mr. Palmer, now Sir Frederick Palmer, K.C.M.G., to report on the question of the construction of a harbour for Palestine and, after a thorough investigation along the coast, his report was submitted in July, 1923.

In June, 1927, it was decided to adopt Mr. Palmer's recommendation and to construct a harbour at Haifa, roughly estimated to cost £1,000,000, and Messrs. Rendel, Palmer and Tritton were appointed Consulting Engineers for the works.

The Engineers at once sent out a Survey Party to survey the coast at Haifa, both land and marine, to make sea borings, to ascertain the rock formation and to investigate quarry possibilities.

As a result of this survey and certain elaborations of the original plan, the estimate for the works was increased to £1,250,000, when the final plans were prepared by the Consulting Engineers.

In February, 1929, it was decided to carry out the works by direct administration of the Palestine Government under the supervision of the Engineers, and the Haifa Harbour Works Department was organised. Preliminary work was commenced in April, 1929, and the first train-load of stone from the quarries was despatched to the harbour in October of that year.

Pillar Crane used for construction of Main Breakwater.

The Town of Haifa.

The town of Haifa is situated on the Southern shore of the bay of Acre, and the roadstead in which vessels lay at anchor before the construction of the new harbour was well protected from the South and the South-West by Mount Carmel, the Western extremity of which rises rapidly to a height of nearly 1,000-ft. On the Northern slope, which falls more gradually as it nears the bay, stands the town, with its railway station and jetty.

Breakwaters.

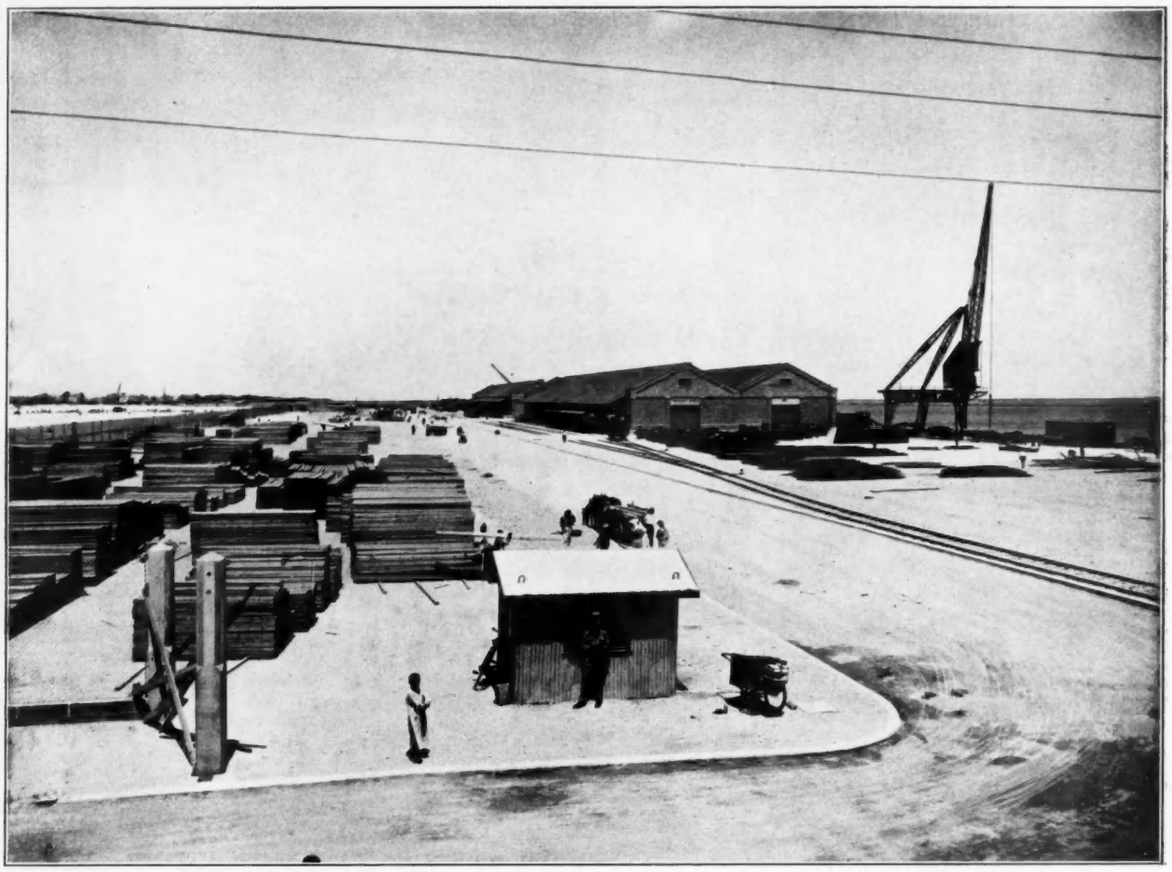
The main breakwater of the new harbour is about 1½ miles long, continues the northern line of shore near the point Ras-el-Kerum, and runs in an easterly direction roughly parallel with the town front. It constitutes the largest item of cost in the works and is formed of natural blocks of quarried stone, graded according to size, the largest, some 12 to 15 tons, being placed on the seaward face. It is now completed and contains 1,100,000 cubic yards of stone, the maximum quantity deposited in one month being 69,000 cubic yards. The stone was placed in position by a specially-designed Pillar Crane, capable of handling a load of 15 tons at a radius of 65-ft. All but the largest stones were tipped from steel skips, lifted bodily from the railway wagons on which they were brought from the quarries. A certain amount of the smaller grades of stone forming the core of the breakwater was deposited in advance from barges. A concrete parapet is provided, with bollards at intervals for end-on moorings for cargo steamers.

The completed lee breakwater, which is formed by prolonging the existing railway jetty, and is about half a mile long, contains 230,000 cubic yards of stone. This breakwater is of less massive section than the main breakwater, and the commencement of its construction was retarded in order that it would have the protection of the main breakwater during the winter storms.

Reclaimed Land.

On the shore side of the water enclosed by the breakwaters an area of land has been reclaimed, along the outer edge of which a wharf has been constructed for cargo steamers and lighters. A deep-water berth about 1,400-ft. long to accom-

The Harbour of Haifa, Palestine

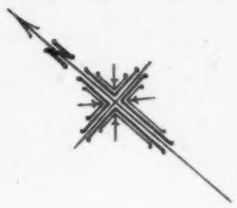


General View of East End of the Harbour Area, showing Imports of Timber and Steel stacked on the Open Dump Areas, also Roads and Service Tracks behind the Transit Sheds.

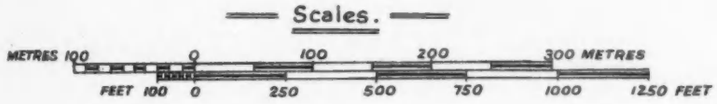
Deep Water Wharf: View of Completed Quay and Service Tracks in front of Transit Sheds.

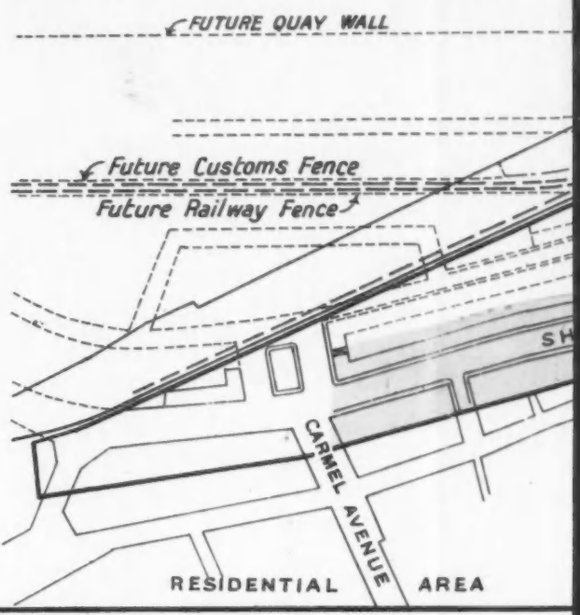
HAIFA HARBOUR.

CONSULTING ENGINEERS:- MESSRS RENDEL, PALMER & TRITTON.

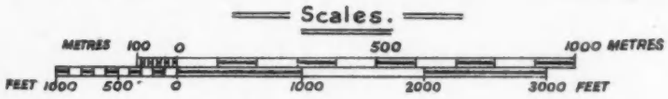


RECLAIMED AREA.
DEVELOPMENT PLAN.





PLAN OF HARBOUR.

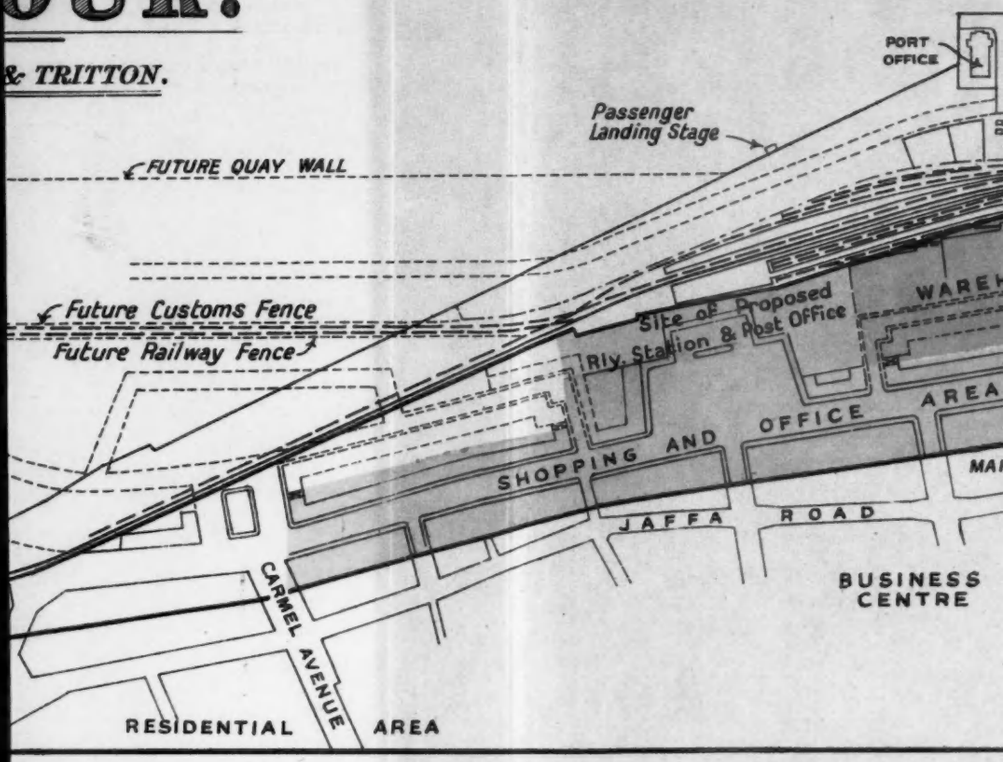


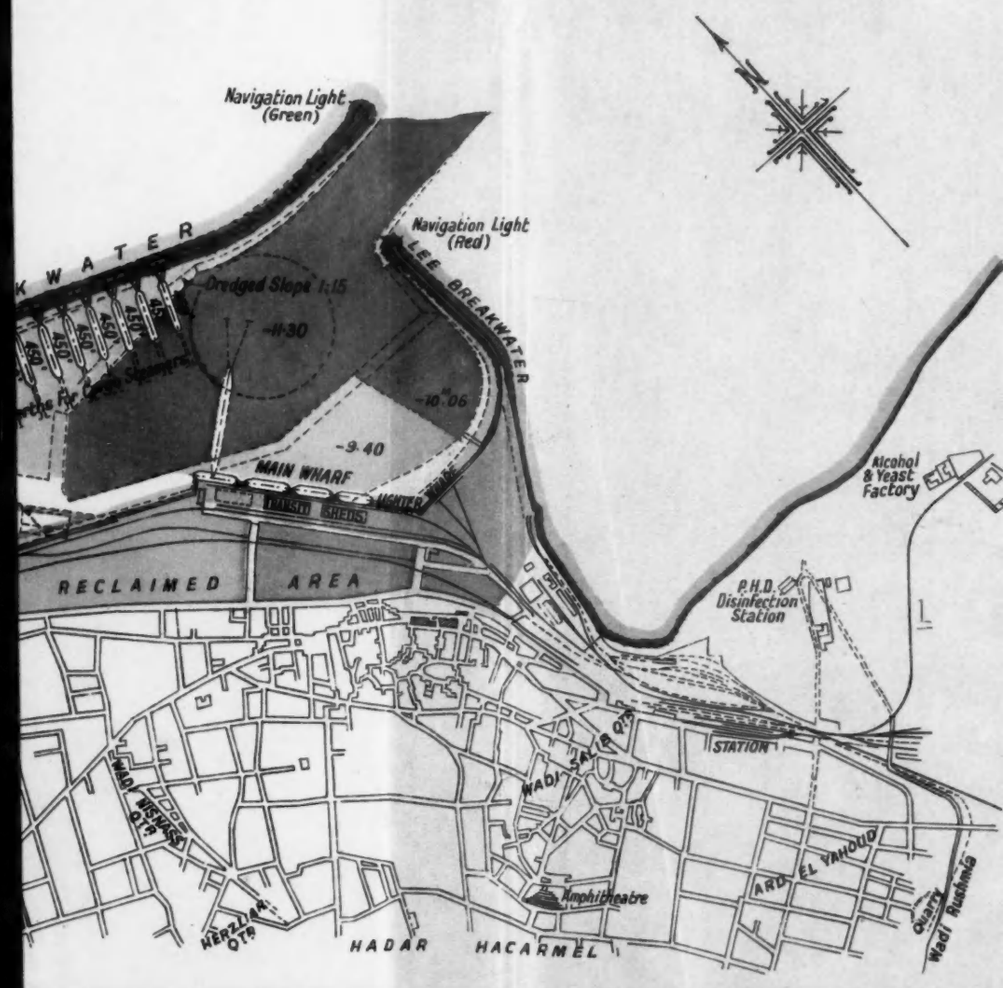
WARD & FOWLOW, LITHO. HARCOURT

NT TO THE DOCK AND HARBOUR AUTHORITY, DECE

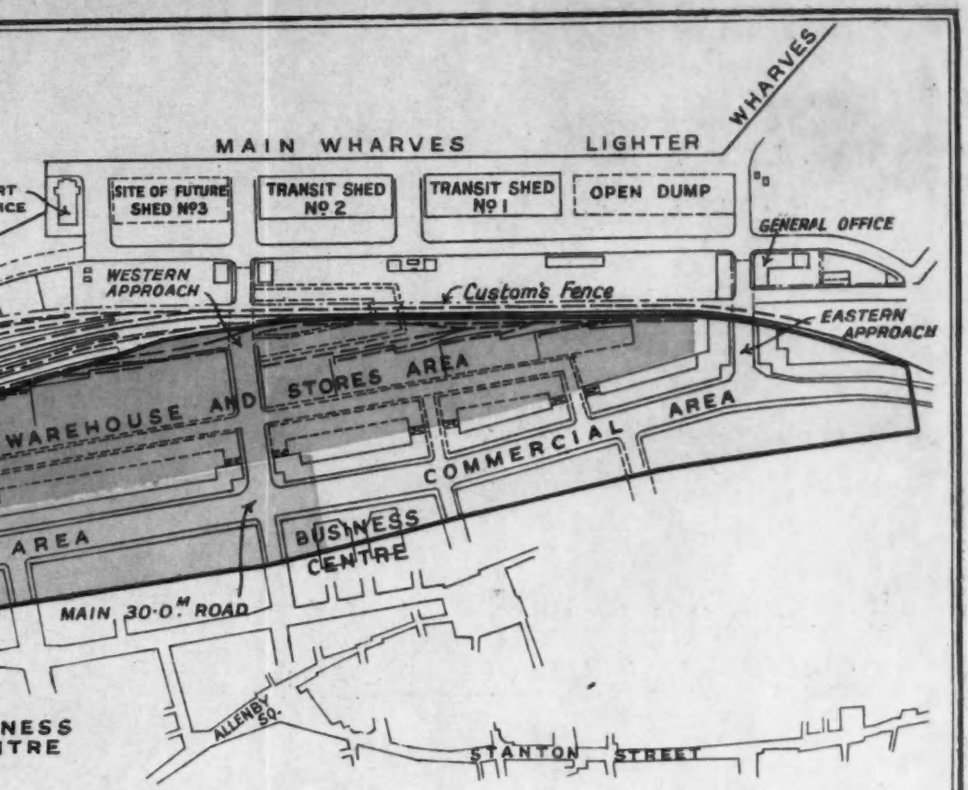
OUR.

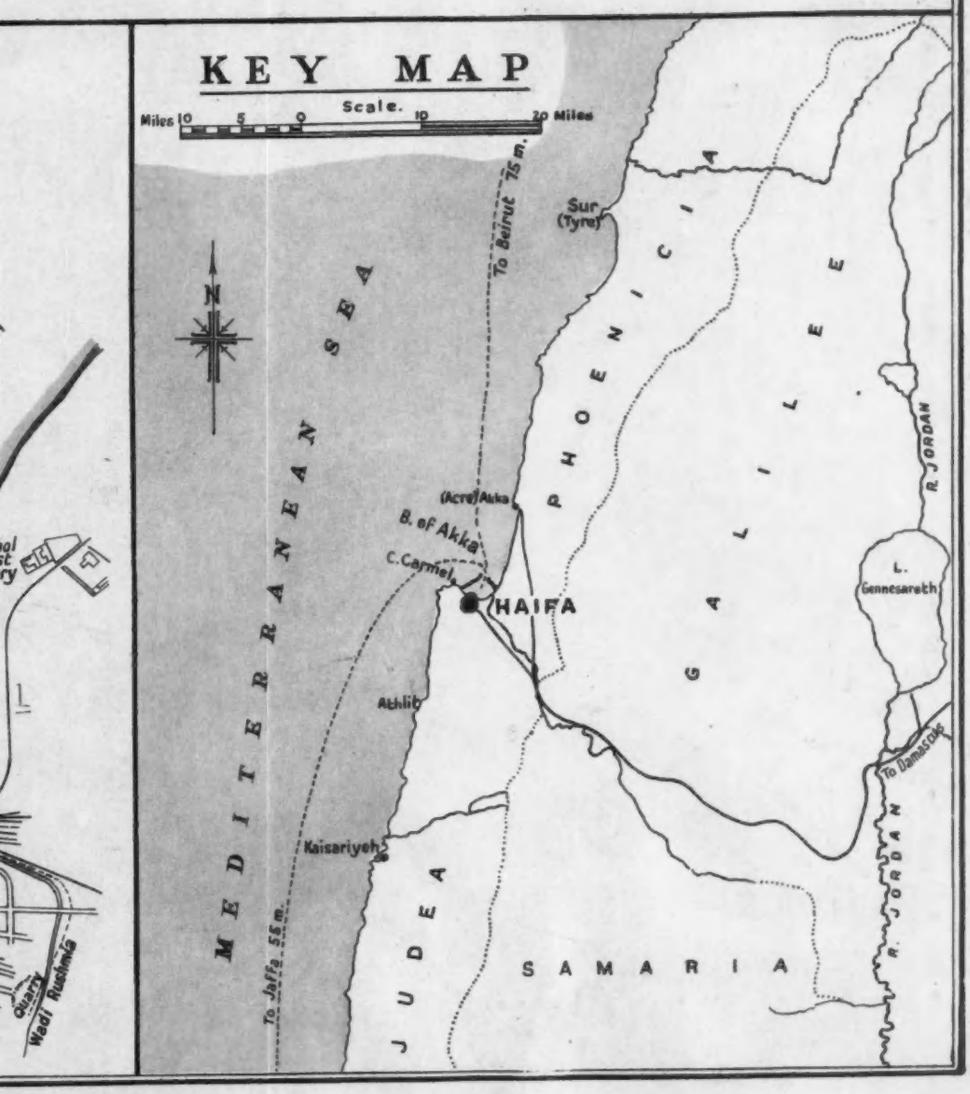
& TRITTON.

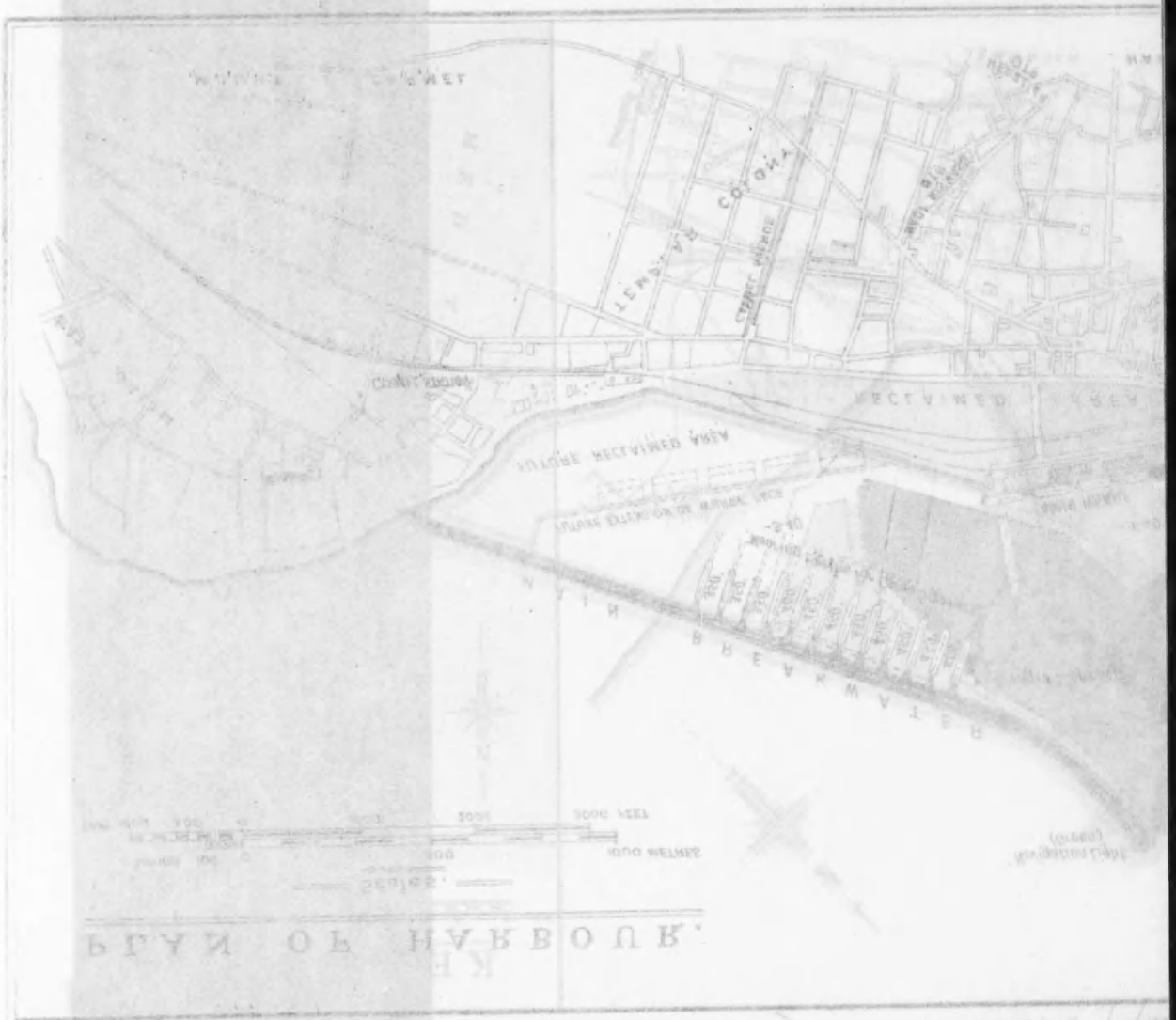




WARD & FONLOW, LITHO. HARCOURT ST. MARYLEBONE, W.1.


MAIN WHARVES
LIGHTER WHARVES
SITE OF FUTURE SHED No3
TRANSIT SHED No 2
TRANSIT SHED No 1
OPEN DUMP
GENERAL OFFICE
WESTERN APPROACH
Custom's Fence
EASTERN APPROACH
WAREHOUSE AND STORES AREA
COMMERCIAL AREA
BUSINESS CENTRE
MAIN 30·0 M ROAD
ALLENBY SQ.
STANTON STREET


KEY MAP
Scale.
Miles 10 5 0 10 20 Miles
To Beirut 75 m.
Sur (Tyre)
PHOENICIA
GALILEE
R. JORDAN
(Acre) Akka
B. of Akka
C. Carmel
HAIFA
L. Gennesareth
Athlit
To Damascus
Kaisariyeh
MEDITERRANEAN SEA
To Jaffa 55 m.
JUDEA
SAMARIA
R. JORDAN

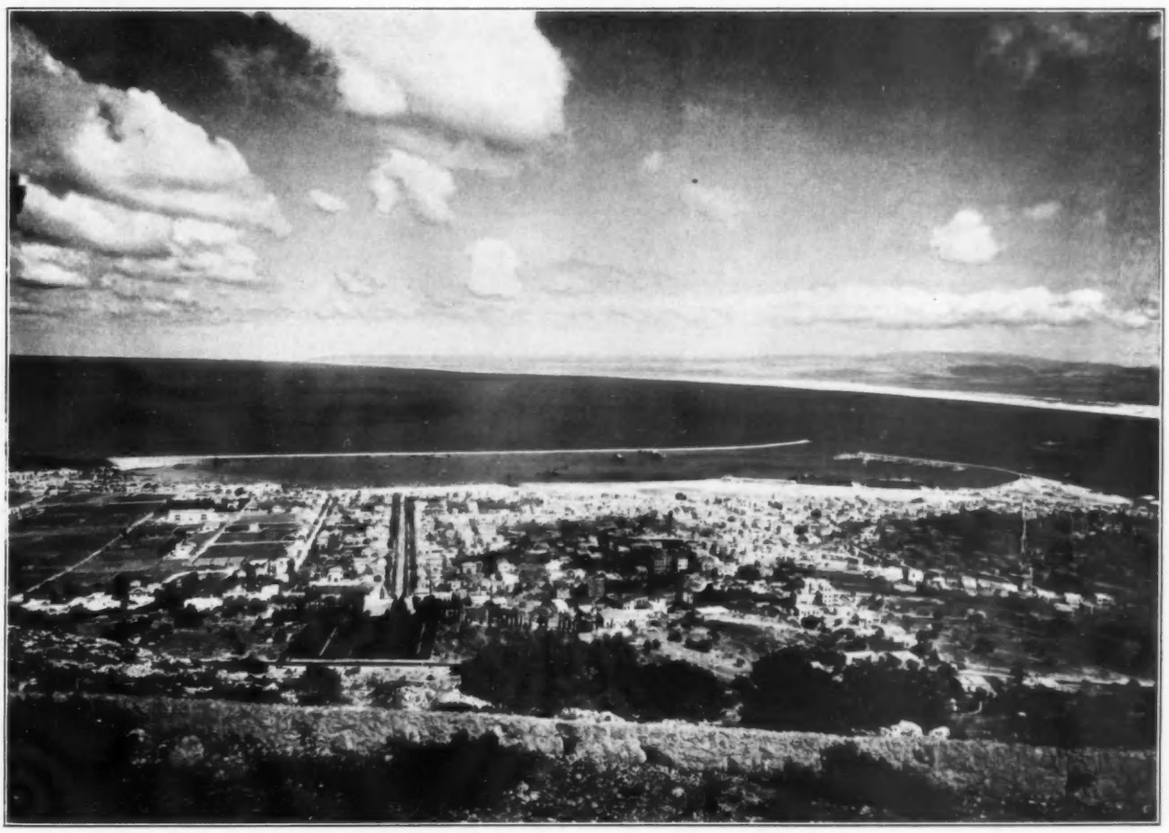


HAIFA HARBOUR.

SUPPLEMENT TO THE DOCK

The Harbour of Haifa, Palestine

Main Breakwater: View of Completed Breakwater, showing Concrete Capping and Mooring Bollards.

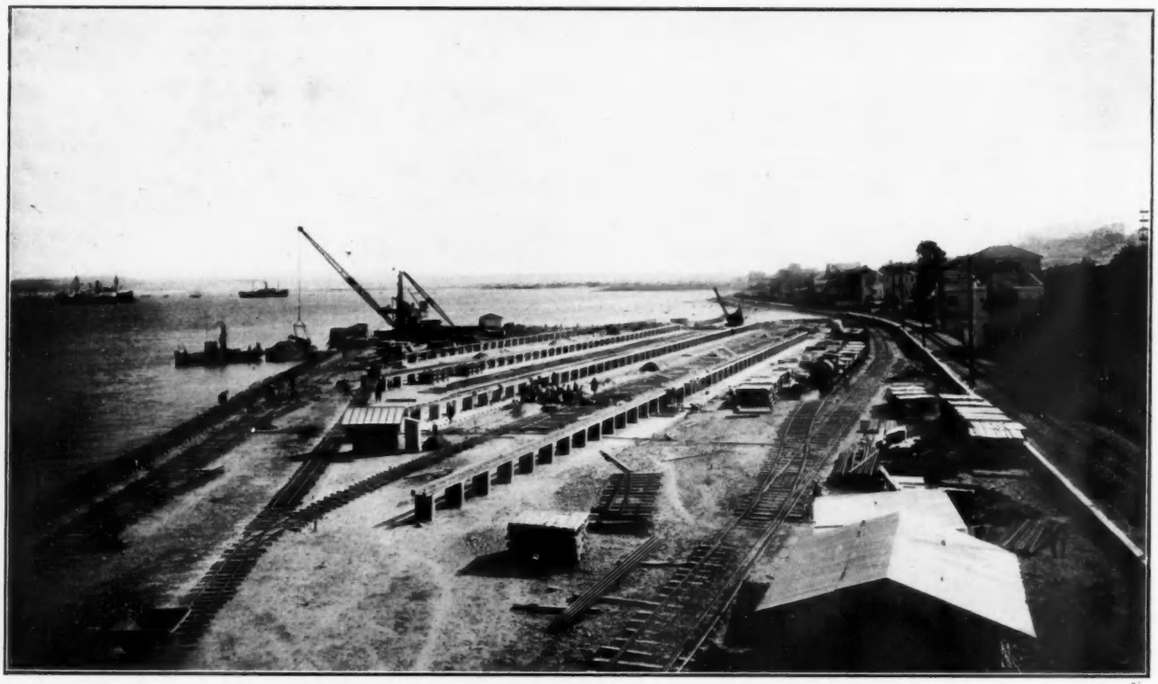


Haifa Harbour: General View of Haifa and the New Harbour from Mount Carmel.

The Harbour of Haifa, Palestine—continued

modate three or four steamers has been provided, also a quay 800-ft. long for lighters. The wharf wall and lighter quay wall are built of concrete blocks, 5 to 7 tons in weight, on the sloping slice-work principle, capped with mass concrete. A start was made on a central abutment of horizontal coursed blocks from which the slice-work was continued in both directions by two 8-ton cranes travelling on the wall itself.

Where the reclaimed area is not bounded by the block walls it is retained by rubble dykes. Both the western and eastern dykes have been completed, and about 90,000 cubic yards of stone used in their construction. The material for the reclamation has been dredged from the deep water area required within the breakwaters, the land so reclaimed being about 91 acres.



General View of Blockyard in course of Preparation.

Two single-storey steel-framed transit sheds have been built, one of them having been designed to permit of the addition when found necessary of a second storey for orange traffic, full railway and road facilities being provided. A site will be reserved for a maritime station.

When adequate allowance has been made for the new port area within the Customs boundary, a considerable area of newly-made land with necessary roads will be available for the expansion of the existing business quarter, which will relieve the traffic in the congested streets and alleys of the Old City.

The area of the sheltered water within the breakwater under the initial scheme is approximately 300 acres; when the future extensions of quayage and reclamation at the western end for the ultimate scheme are carried out, the sheltered area will then be about 250 acres.

Dredging.

In the initial scheme about 175 acres are being dredged—about 100 acres to 37-ft., and the balance to 31-ft. or over. As a result of this the harbour can accommodate liners of about 30,000 tons, the largest calling at Haifa during the tourist season, which are able to disembark their passengers within the shelter of the breakwaters.

It was decided to carry out the whole dredging programme by contract, and the trench dredging for the wharf wall was completed by N. V. Baggerwerken de Vries and van den Bosch of Utrecht. The main dredging contract was placed with the Tilbury Contracting and Dredging Co. (Egypt), Ltd. Altogether, over two million cubic yards of material, mainly sand, have been removed in deepening the harbour and reclaiming the area along the shore.

The Quarries.

In view of the large quantities of natural stone used on the works, the quarries have formed one of the most important scenes of operations. They are situated on the sea coast near Athlit about 10 miles south from Haifa. The stone used is a sandstone which, though somewhat light in density, is homogeneous in character and thus renders possible the quarrying of the large natural blocks required for the protection of the seaward face of the breakwater, without the necessity of using artificial blocks of concrete or masonry. Heavier local stone is obtainable close to the site of the works, but is not homogeneous and is heavily fissured, making the quarrying of blocks of sufficient size impossible. Altogether five units have been at work in the quarries, each unit comprising one 15-ton derrick crane and two 5-ton travelling cranes, and a quantity up to 5,000 tons of stone has been removed daily. The quarries were closed down, except a face for maintenance, towards the end of 1932.

Completion of the Scheme.

The works described have been virtually completed, and the Harbour was officially opened on the 31st October last. The discharge at Haifa of one branch of the Iraq oil pipe line is now assured and, it is reported will have a capacity of 2,000,000 tons yearly. It may be mentioned in this connection that a new oil dock will shortly be constructed within the sheltered area of the harbour, immediately to the west of the lee breakwater. A concession for the abstraction of salts from the Dead Sea is being developed. An export of 100,000 tons of potash a year from Haifa is expected. Regarding the fruit trade, of which the Jaffa orange is one of the principal exports from Palestine at the present time, estimates based on the areas on which groves have been planted show a possible development from the present maximum annual export from Palestine of over 4 million cases to over 9 million cases within the next ten years. Should these estimates materialize, further development of the harbour will become necessary within a short time. Provision for such development has been made within the breakwaters now constructed and there is no doubt that there are great possibilities for Haifa as a Mediterranean Port of the future.

Data

Breakwaters.

Length of Main Breakwater, 210 metres (7,250-ft.); length of Lee Breakwater, 765 metres (2,510-ft.).

Navigation Lights.

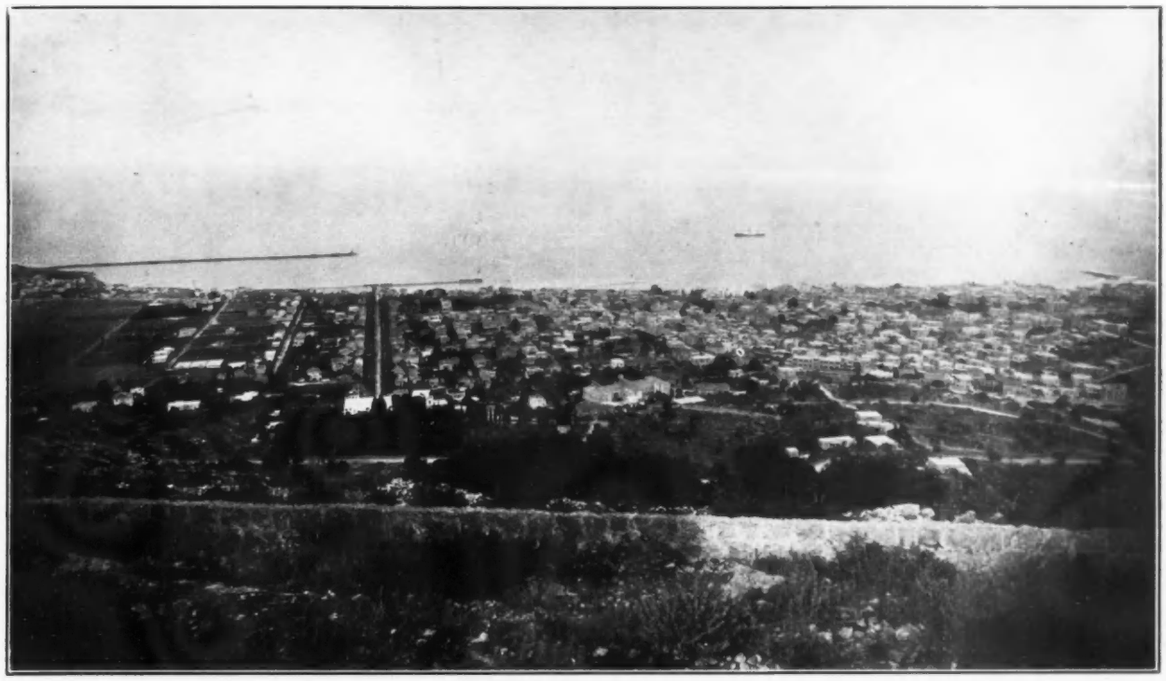
Green flashing light at end of Main Breakwater, visible in ordinary weather for a distance of 4 miles; Red flashing light at end of Lee Breakwater, visible in ordinary weather for a distance of 6 miles.

Land and Water Areas.

Total area enclosed by Main and Lee Breakwaters, including both water area and reclamation area; also including dredged channel beyond the end of the Lee Breakwater—1,567,300 sq. metres (387.3 acres).

This total area is made up as follows:—(a) Main Reclamation, outside of Customs Fence, 201,300 sq. metres (49.7 acres); (b) Main Reclamation, inside of Customs Fence, 160,500 sq.

The Harbour of Haifa, Palestine—continued



The Main Breakwater, taken at the end of September, 1930, when it was 785 metres long. By the end of December, 1930, it was 1,050 metres long.

metres (39.7 acres); (c) Additional Reclamation at West End, 78,100 sq. metres (19.3 acres); (d) Harbour Water Area, 1,127,400 sq. metres (278.6 acres).

Dredged Areas.

Of the Harbour Water Area, the following are the dredged areas:—

Dredged to 11.30 m. (37-ft.) below M.S.L., 368,800 sq. m. (91.1 acres); Dredged to 9.40 m. (30.8-ft.) below M.S.L., 255,600 sq. m. (63.2 acres); Dredged to 10.06 m. (33-ft.) below M.S.L. (Oil Dock Area), 102,450 sq. m. (25.3 acres).

Wharf Details.

Length of Main Wharf dredged to 9.40 m. (31-ft.) below M.S.L., 400 metres (1,312-ft.).

Length of Intermediate Wharf dredged to depth varying from 9.40 m. (31-ft.) to 5.5 m. (18-ft.) below M.S.L., 110 metres (361-ft.).

Length of Lighter Wharves, with depth of water averaging 5 m. (16½-ft.) below M.S.L., 175 metres (574-ft.).

Number of bollards for tying up vessels, 33.

Level of surface of quay, 2 m. (6½-ft.) above M.S.L.

Tidal Variation.

Normal Variation—from 30 centimetres (12-in.) above M.S.L. to 30 centimetres (12-in.) below M.S.L.

Maximum Range Recorded—from 42 centimetres (16½-in.) above M.S.L. to 49 centimetres (19-in.) below M.S.L.

Moorings and Berths.

Bollards along Main Breakwater—To withstand a pull of 200 tons, 10; to withstand a pull of 150 tons, 19.

Deep water berths along Main Wharf Wall for three large cargo vessels, or for four small cargo vessels.

One of the Storm Water Drains, through the Reclaimed Area and Blockyard, in course of preparation.

The Harbour of Haifa, Palestine—continued

Passenger Landing Stage.

A small passenger landing stage has been provided for the landing of passengers brought by launch from large vessels moored to the Main Breakwater.

Transit Sheds.

Two transit sheds now built, each single storey at present, but one designed to take a second floor when required.

Dimensions of Sheds—Length, 116 metres (381-ft.); breadth, 36 metres (118-ft.); floor area, 4,176 sq. metres (1 acre); average depth to underside of roof trusses, 20-ft.

Main Wharf Wall has been extended sufficiently to provide a site for a third transit shed when required.

Dump Areas.

Areas totalling about 60,000 sq. metres (or nearly 15 acres) have been surfaced up with quarry waste to form open dumps, or uncovered stacking areas for goods.

Oil and Potash Trades.

At the eastern end of the reclamation an area of about 50,000 sq. metres (or some 12½ acres) has also been surfaced, ready for whatever development these two trades may require.

Cranes.

The following cranes are provided:—

Fixed derrick at East end of main wharf, capable of lifting 15 tons at 65-ft. radius.

Travelling 5-ton gantry crane on West lighter wharf.

Travelling 5-ton gantry crane on East lighter wharf.

Floating breakwater maintenance crane, 15-ton derrick mounted on lighters.

Rails for travelling gantry cranes have been laid along the main wharf, but no gantry cranes are provided; heavy lifts will for the present have to be off-loaded by ships' derricks.

Rail and Road Access.

Standard gauge rail traffic has access to the lighter wharves and down the main wharf in front of the Transit Sheds; there are also three standard gauge lines parallel to the main wharf, behind the Transit Sheds.

Narrow gauge (1.05 m.) rail traffic has access to the lighter wharves.

Road vehicles have access to all parts of the Customs Area, including lighter wharves and main wharf.

Facilities for Vessels using the Harbour.

Coal.—None.

Fuel Oil:—A supply will probably be available, and possibly a feed pipe along the Main Wharf.

Cleansing Water.—Plentiful.

Drinking Water.—Very limited supply at present; small quantities available for vessels in emergency.

Boiler Water.—Limited supply available for Harbour Craft.

Electric Lighting.—The whole Customs Area is well lighted, including the quays and the interiors of Transit Sheds.

Tugs.—Two powerful tugs have arrived at Haifa and will shortly be available for towage services.

Future Extensions of Main Wharf.

The Main and Lee Breakwaters enclose a water area sufficient to allow of an extension to the Main Wharf of 900 metres, or 2,950-ft.

This extension would provide sites for five extra transit sheds, over and above the three sites along the present Main Wharf; i.e., a total of eight sheds.

This extension would also provide additional berths for six large cargo vessels, or for eight small cargo vessels, over and above the berths at present provided.

Aden Port Trust

The following are the returns for the month of September, 1933, of shipping using the port:—

	No.	Tonnage
Merchant Vessels over 200 tons ...	107	441,062
,, ,, under 200 tons ...	4	493
Government Vessels	15	20,021
Dhows	84	2,378
PERIM.		
Merchant Vessels over 200 tons ...	18	54,391

The number of merchant vessels over 200 tons that used the port in September, 1933, was 107, as compared with 108 in the corresponding month last year; and the total tonnage was 441,000, as compared with 459,000.

Excluding coal, salt, fuel oil and military and naval stores and transhipment cargo, the total tonnage of imports in the month was 7,000 and of exports 4,500, as compared with 6,700 and 4,200 respectively for the corresponding month last year.

The total value of imports, excluding Government stores, was Rs.38,17,000/-, as compared with Rs.42,06,000/- for September, 1932, and of exports Rs.26,08,000/-, as compared with Rs.27,44,000/-.

The total value of both imports and exports together was Rs.64,25,000/-, as compared with Rs.69,50,000/- for the corresponding month last year.

Imports during the month were above those for September, 1932, in the case of coffee, grain, pulse and flour, gums and resins, hardware, raw hides, seeds, raw skins, white piece goods, manufactured tobacco and private treasure; and below in the case of sugar, grey and printed or dyed piece goods, twist and yarn and unmanufactured tobacco.

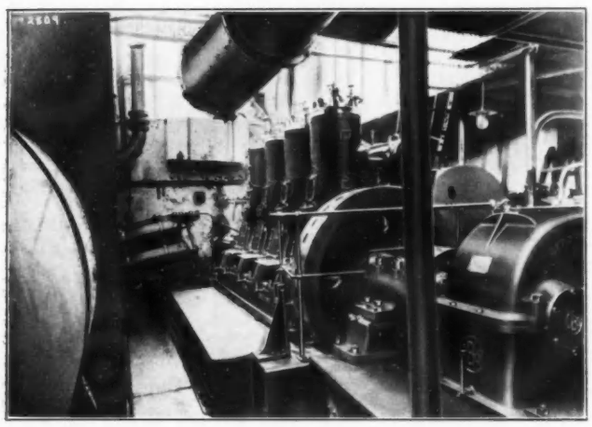
Exports were above those for September, 1932, in the case of grain, pulse and flour, gums and resins, hardware, seeds, raw skins, sugar, white, printed or dyed piece goods, twist and yarn and private treasure; and below in the case of coffee, raw hides, grey piece goods and unmanufactured and manufactured tobacco.

TRADE OF THE PORT.

Article.	Unit	Imports.		Exports.	
		Quantity.	Value Rs.	Quantity.	Value Rs.
Coal	Tons	0	0	0	0
Coffee	Cwts.	5,791	1,75,066	6,873	2,52,846
Grain, Pulse and Flour	,,	36,180	1,64,754	23,360	1,15,023
Gums and Resins	,,	508	8,169	1,684	21,315
Hardware	—	0	27,108	0	26,337
Hides, raw	No.	4,360	4,540	6,073	6,750
Oil, Fuel	Tons	49,278	12,31,950	0	0
,, Kerosene	Gls.	16,016	11,012	3,088	2,172
,, Petrol	,,	26,464	26,350	488	579
Salt	Tons	0	0	20,550	2,01,940
Seeds	Cwts.	5,580	43,402	1,525	9,414
Skins, raw	No.	376,759	1,89,094	371,590	3,09,620
Sugar	Cwts.	13,575	82,966	13,274	83,087
Textiles—					
Piece Goods, Grey	Yds.	3,275,782	4,10,986	2,822,290	3,52,374
,, ,, White	,,	697,980	98,230	238,745	42,734
,, ,, Printed or Dyed ...	,,	836,747	1,47,545	1,196,060	2,41,399
Twist and Yarn	Lbs.	217,900	88,814	185,296	75,226
Tobacco, Unmanufactured ...	,,	197,512	38,824	389,312	66,232
,, Manufactured	,,	94,794	54,134	45,808	40,212
Other Articles	No. of Pkges.	70,971	7,91,261	15,064	3,56,890
Treasure, Private	—	0	2,23,295	0	4,03,573
Total ...	—	—	38,17,500	—	26,07,723

A Grain Elevator Installation for Port of Bristol Authority

DIESEL ENGINES are now used in place of steam power in the Port of Bristol Authority's grain elevator " Calais " at the Avonmouth Docks. The conversion from steam to diesel drive has resulted in very great economies both in regard to fuel and labour cost, while another important feature is that the complete elevator can be placed in commission within a few minutes of the order being given, whereas several hours were necessary when the elevator was driven by steam.



S. E. " Calais," Avonmouth Docks, Bristol. View showing 280 b.h.p. Petter Engine driving two vacuum pumps through Brown's gearing.

The Port of Bristol Authority has had about eight years' experience with Petter engines of somewhat similar size on its floating grain elevator " Beta," and owing to the reliability and low running costs experienced, it was decided to again use the Petter engines in place of steam in the " Calais."

The original steam plant which has been removed consisted of a main unit for driving the vacuum pumps, and was of the compound surface condensing vertical open crank type. The working load was 180 b.h.p. with a maximum overload of 237 b.h.p. at 165 r.p.m., using a normal working pressure of 160 lbs. per square inch. The vacuum pumps are of the double acting vertical type having two cylinders, previously arranged one on each side of the steam engine, each 43-in. bore and 16-in. stroke.

In addition to the main power unit, an auxiliary steam engine was direct coupled to a 20 k.w. direct current generator 550 r.p.m.

The vacuum pumps are used for transferring grain from the ship's hold in the Avonmouth Docks into storage bin on the dockside, or into barges for further transportation, whilst current developed by the generating set was absorbed by motors attached to the various auxiliaries necessary to the elevator.

The whole of the above mentioned plant, together with the steam boilers and other now unnecessary auxiliaries have been removed by the main contractors, Messrs. Charles Hill and Sons, Bristol.

The new main driving unit consists of a four-cylinder two-stroke cycle Petter atomic diesel engine, which is coupled through a David Brown single reduction gear and a Brown pin type flexible coupling to the crankshaft of the vacuum pump. The main engine develops 210 b.h.p. at 225 r.p.m., and 266 b.h.p. at 285 r.p.m., with corresponding powers at intermediate speeds. The speed over this range is perfectly controlled by the engine governor hand wheel.

The engine is fitted with a water-cooled exhaust manifold, a chain-driven cooling water pump and tachometer.

The original twin vacuum pumps are rebored and fitted with new liners of 41¼-in. bore. The cylinders are assembled on a rigid cast iron baseplate and new crankshafts, one for each cylinder, and connecting rods are installed. A 5-ft. diameter flywheel is bolted between the two crankshafts and balance weights have been fitted to assist the steady running of the pump. The cyclic variation obtained is 1/150 at 225 r.p.m.

The new auxiliary generating set consists of a twin-cylinder two-stroke atomic diesel engine, direct coupled to a 37 k.w. 220-volt compound wound drip-proof D.C. generator which operates at 450 r.p.m. The combined set is mounted on a rigid cast iron baseplate.

Energy from the generator is taken to a special marine type switchboard of totally enclosed and splash-proof pattern, mounted adjacent to the generator. This board is equipped with D.C. circuit breaker having external handle, Admiralty type 8-in. voltmeter and ammeter with drip-proof shunt regulator mounted under the switchboard. Distributors are taken from this switchboard to the various auxiliaries in four outgoing circuits, each comprising a D.C. circuit breaker and ammeter for a normal continuous duty of 50 amperes.

The engine is complete with water-cooled exhaust silencer, chain-driven water pump attached to the engine, a powerful centrifugal governor controlling the generating set speeds within very close limits, and a flywheel which gives the low cyclic variation of 1/260 at 450 r.p.m.

Both engines are fitted with the Petter calibrater lubricator, which ensures a positive supply of lubricating oil to the various working parts.

It is not intended to give a description of the internal points of the engine, as these are already very well appreciated.

The main engine seating provided a very interesting problem which was successfully solved, resulting in a substantial rigid girder base, firmly attached to the hull of the elevator.

The exhaust gases from the main engine pass through the water-cooled manifold into a secondary silencer and thence into one of twin stacks which have been retained in their original position from the previous installation. These stacks were used previously, one for the air pump exhaust, and this has been retained for the same purpose, while the other, previously utilised for the steam engine exhaust, now collects the exhaust gases from both engines.

From the generating set the exhaust passes through a water-cooled silencer attached to the engine, and on through a secondary silencer to the main exhaust stack.

The exhaust systems are reasonably short and are fitted with expansion joints and cleaning doors on all pipe bends. The exhaust is almost colourless and silent.

The engine cooling water is drawn from overboard, separate circuits being used for each engine. Visible outlets are provided and the waste discharges overboard. In order to prevent any excessive temperature stresses after the normal flow ceases, a cylindrical water tank is mounted above the engines and water for after-cooling purposes flows from this tank through the engines for a short time after they are shut down. Special materials are used in the cooling system to prevent the harmful effect of electrolitic action.

S. E. " Calais," Avonmouth Docks, Bristol. View of the Elevator transferring grain from the steamer to the barges.

The main engine and the auxiliary set engine are both started by compressed air which is stored in two steel reservoirs inter-connected and having a total capacity of 15½ cu. ft. at a pressure of 350 lbs. per square inch. The pressure in the

A Grain Elevator Installation for Port of Bristol Authority—continued

reservoirs is maintained by a single stage vertical air compressor, belt driven from the generating set, this compressor being also fitted with a handwheel suitable for manual operation.

At each engine the air pipes are connected to a special cam-operated distributor which automatically supplies the cylinders with compressed air at the correct phase of the stroke.

The fuel oil system is composed of a main storage tank and daily service tanks for each engine. The fuel from the daily service tank to the engine passes through an adjustable oil heater.

During the official test at the maker's works, the fuel consumption obtained on the main engine was for full load .404 lbs. per b.h.p. hour at 225 r.p.m. The fuel consumption obtained for the generating set at full load was .47 lbs. per b.h.p. hour.

When laying out this installation the engine makers, in accordance with their usual practice, studied very carefully the possibility of tortional vibrations. As is well-known these tortional vibrations should they appear within the working range of the engine, may cause considerable trouble, particularly where a gear drive is involved; therefore, it is a matter of satisfaction to the owners to know that such harmful vibrations are entirely absent in the working range of the engine.

The illustrations herewith show the elevator at work, and the neat compact interior of the engine room.

It is interesting to know that the satisfactory performance of the floating grain elevator " Beta " installed about eight years ago, and the " Calais " installed last winter, has resulted in another repeat order for the conversion of the " Alpha " from steam. The engines in this elevator will be a 270 b.h.p. atomic diesel, and a 49 k.w. generating set. This is proof beyond doubt of the reliability and low running costs of the diesel engine.

North-East Coast Notes

Trade Improvement Still Maintained on the Tyne.

THE prospects for trade on the North-East Coast continue bright with improvement noticeable in several directions. The dullest period of the year is passed, and with the colder weather an expansion of the coal trade shipments is reasonably expected, although as was the case quite recently, stormy weather at sea may handicap the industry to some extent. There is less idle tonnage, and with more vessels in commission the ship-repairing yards should find more work to do. The reports submitted to the Tyne Improvement Commission in November contain some striking facts. For instance, the coal and coke shipments for October totalled 1,115,500 tons, an increase of 40,000 tons on 1932, which was equal to 3.72 per cent. For the ten months ended October 31st, the shipments aggregated 10,503,500 tons, an increase of 112,223 tons, or 1.08 per cent. The coke trade has been very active, and the shipments for the past ten months were 70,000 tons ahead of 1932, and if maintained at the present rate the shipments will reach about 1,000,000 tons for the year.

General merchandise imported into the Tyne, from January 1st to September 30th totalled 1,208,456 tons, or 42,956 tons more than in the corresponding period last year. Merchandise exported totalled 158,893 tons, an increase of 2,418 tons. As to idle tonnage, a year ago there were 151 vessels of 327,661 tons, whereas at the beginning of November the figures were 107 vessels representing 238,023 tons.

Blyth Approaching a Record.

Mr. Ridley Warham, chairman of the Blyth Harbour Commission, at the meeting in October said that if the present demand for coal continued there was every prospect that their record for 1929 would be exceeded. He also referred to the fact that the coal shipping facilities of the port are capable of shipping at least 30,000 tons per working day, and in the near future there will be another shipping point available which will add to the capacity by two or three thousand tons.

The latest statistics of shipments are as follow:—September, 1933, 528,748 tons; September, 1932, 388,974 tons; September, 1913, 400,416 tons. For the nine months ended September 30th, 1933, 4,103,430 tons; 1932, 3,470,992 tons; 1913, 3,552,591 tons. These totals show an increase of 18 per cent. on 1932 and 16 per cent. on 1913. Comparative figures for the year 1929—the previous highest record of the port—are as follow: January 1st to October 14th, 1933, 4,348,896 tons; January 1st to October 12th, 1929, 4,358,110 tons.

Wear Problem Settled.

As was mentioned in this column a month ago, the dispute as to f.o.b. prices on the Wear and Tyne has been settled.

It was announced at a meeting of the River Wear Commission at Sunderland, in October, that shippers of coal from the River Wear would no longer have to pay the extra 1½d. per ton compared with coal shipped from the Tyne. Mr. W. B. Nisbet, who presided, said that the Attorney-General had now allowed his fiat to be withdrawn in connection with the legal action which had been pending. Although the new regulations would have to go before the Board of Trade, that was just in the nature of a formality. " I think that from the point of view of the Commissioners this is a very happy solution of a very difficult problem," said Mr. Nisbet.

Since then the Secretary of Mines has approved amendments of the Durham District Marketing Scheme under the Coal Mines Act, whereby shipping dues are included in the minimum f.o.b. prices. At a later date the minimum price for Durham export coal was advanced 2d. for all classes except smalls, which were raised one shilling per ton.

Wear Commissioners' Finance.

At the meeting of the Sunderland Town Council in November, the River Wear Commissioners notified that they would require from Sunderland Corporation £35,000 to enable them to pay the half-year's annuities on the Second Mortgage Funded Debt, South Dock Mortgages and "B" Guaranteed Mortgages, falling due on December 31st, 1933.

Alderman Nicholson, chairman of the Finance Committee, explained that the £35,000 did not represent the whole of the interest payable, which was £120,000. The amount now asked for was due to shortage of revenue. The Commissioners were suffering from the same disability as the Corporation. They had had to borrow a large amount of money at a time when rates of interest were high. There would, however, be a break in the period of interest, and advantage would be taken of it. The amount was £5,000 less than was required for the same purpose last year, and this showed that there had been considerable economy exercised, because the revenue of the Commission had decreased by £21,600 during the present year, but they were able to meet this by saving something like £24,000 in expenditure. The report of the Finance Committee was adopted.

Tees Improving Trade.

The reports submitted to the November meeting of the Tees Conservancy Commission showed a distinct improvement in the trade position. The Commissioners' year ended with October and returns available showed that tonnage of iron and steel imported from abroad during the past twelve months had been very small. The total imports were 14,664 tons, compared with 126,759 tons in the corresponding period a year ago, and 54,564 tons in the comparable period immediately before the war. In the past twelve months only 3,161 tons of pig-iron were imported; 7,022 tons of semi-finished steel, and 4,481 tons of finished materials. All classes of material showed a reduction, but the most remarkable occurred in semi-finished steel, which, in the year ended October, 1932, amounted to no less than 109,051 tons. Makers of billets and other semi-finished materials are experiencing heavy pressure for supplies from consumers, whilst the output from local blast furnaces is fully absorbed by foundries and steel works.

Harbour Improvements at Konigsberg

A sum of 460,000 marks has been voted by the Ministry of Works ("Reichsarbeitsministerium")—to be applied to improvements, etc., in the local harbour.

It is intended to carry out three projects, the first of which, costing approximately one-half of the total sum, is the erection of an embankment wall ("Ufermauer") and quay along the south bank of the river Pregel from the old railway bridge, now disused, to the new one—" Reichsbahnbrucke." The second project is of no importance for sea-going shipping, confining itself to the raising of the embankment by about 80 cm. along the " Fish Market " which is often flooded, and a straightening of a portion of the river Pregel, which part however is only utilised by inland shipping. The third proposal concerns the enlargement of the small landing-stage situated at the " Reichsbahnbrucke " on the outskirts of the city.

Notes from the North

Institute of Transport Visit to Manchester Docks.

MEMBERS of the Manchester and Liverpool Section of the Institute of Transport opened the 1933-34 session by visiting the docks of the Manchester Ship Canal Co. Particular interest was taken in the " remote control " of electric and hydraulic cranes, whereby the crane driver can stand on the edge of a vessel's hold and from that point operate his crane with the load always in view, thus dispensing with signals. On returning to Manchester the party of nearly seventy were entertained to tea by the Canal Co. at the Midland Hotel, Manchester. Mr. David Halliwell, former chairman of the I.O.T. local section, called upon Mr. J. G. Merriweather, the chairman-elect, to propose a vote of thanks to the company, coupling it specially with the name of Mr. Browning, traffic superintendent, who had acted as guide. In reply, Mr. Browning said that vessels of 14,000 to 15,000 tons could reach Manchester, the locks being 600-ft. long by 65-ft. wide. When the canal was opened in 1894 it was 26-ft. deep; it had since been dredged out to 28-ft., with 30-ft. for the first four miles, to accommodate the oil tankers bringing motor spirit to this country.

Death of Famous Tunnel Engineer.

Mr. Bertram Henry Majendie Hewett, A.C.G.I., F.R.G.S., M.Inst.C.E., M.Am.Soc.C.E., engineer-in-charge of the new Mersey Tunnel, who had been appointed manager of this highway at a salary of £2,500, died on 15th November at the age of 59 years. He had been engineer-in-charge of the Mersey Tunnel works under Sir Basil Mott, from the beginning of the work in 1925. He had an extensive, if not unique, experience of tunnel work. In 1904 he went to the United States for the Pennsylvania Railroad, and was placed in charge of a tunnel under the North River, New York. He remained in the States until 1912, when he went to Mexico for another tunnelling job. Later he returned to the States, bored more tunnels, and became director of a firm who acted as consultants for the great Holland tunnel. He returned from America in 1925 and took up the Mersey Tunnel post. In 1931 he was appointed manager of the tunnel (when open for traffic) at a salary of £1,800 a year, with £700 a year for special services which might be necessary. The appointment was for at least twelve months, and if possible for two years. One of Mr. Hewett's last duties was to make arrangements for the tunnel's first Royal visitor, Princess Helena Victoria, to traverse it *en route* for Hoylake.

Four Miles of River Banks.

Four miles of new river banks have been built by the Mersey and Irwell Catchment Board, as a preventive against flooding, principally in the neighbourhood of Flixton and Ashton-on-Mersey. The Ship Canal has had a bad effect on the defences of the Mersey. Before its construction the main current of water flowed quietly along devious channels to the sea. Now it goes swiftly over a weir into the Canal, the velocity of the river is increased, and, in consequence, the old banks have in many cases crumbled away. The work of the Catchment Board, under Major Pearson, the resident engineer, has been twofold. New banks have been built at the worst places, set back some distance from the old ones in order to give the river more room to cope with the extra water it has to carry, and the bed of the river has been cleared of obstruction.

Tug Owners' Representations to Dock Board.

Liverpool Steam Tug Owners' Association have made representations to the Mersey Docks and Harbour Board asking that smaller fees be charged for the reporting of vessels by telephone from the Board's Mersey Bar lightship. The Board replied that the charge for reporting vessels passing the Formby lightship included payment of a royalty fee to the Postmaster, a telegram fee and a contribution to the Board of Trade, and they regretted that no reduction could be made. Possibly other and joint representations will be made to the Dock Board.

Manchester Ship Canal Company.

Directors of the Manchester Ship Canal Company paid warm tributes to Mr. Alfred Watkin, of Lymm, on the occasion of his relinquishing the chairmanship of the company after a term of nearly three years. It was recalled that when he accepted the position on the death of Mr. W. C. Bacon, it was stipulated that it should be for a limited period. The Board expressed to Mr. Watkin their good wishes and pleasure on his continuance as a director, a position which he has held since January, 1913. After the meeting his colleagues entertained him to a complimentary luncheon, and presented to him an illuminated album as a token of their regard. Mr. F. J. West, C.B.E., who joined the Board of the Manchester Ship Canal Company in 1917, succeeds Mr. Watkin as chairman. Mr. West is the head of Wests Gas Improvement Company, Ltd., and is the vice-president of the Manchester Chamber of Commerce. He was Lord Mayor of Manchester in 1924-25.

Caernarvon Harbour Trust.

At a meeting of the Caernarvonshire Harbour Trust, the superintendent (Capt. Richard Jones) reported that a quantity of mud had been removed from the Victoria Dock, so as to ensure the safety of ships making use of the dock. Owing to stormy weather throughout October, it had been impossible to examine the buoys on the Bar channel. It was reported that the Anglo-American Oil Company had applied for the renewal of their lease for 14 years, with option to surrender it in seven years if they desired to do so. The Trust has decided to renew the lease on condition that the company falls in line with the other companies and pays dues on all oils coming into the town.

Dock Charges' Arguments for Adoption of Shift System.

Addressing the Manchester and District Traffic Association, Major G. A. Renwick, M.P., a shipowner, said that the costs of the large ports of the country were still much too high. By an intelligent overhaul of existing methods, and with the collaboration of the trade unions, these charges could be materially reduced. He instanced the ports of Manchester, Liverpool, and London with an aggregate capital outlay of over £100,000,000. This huge outlay in facilities and plant was lying dormant for a great part of the year; he thought the facilities were not being used for more than 30 per cent. of their capacity. The working day at present is from 8 a.m. until 5 p.m. Other industries with a like amount of capital at stake and dependent largely upon modern machinery and equipment, did not adopt similar methods.

The ports must adopt at least the two-shift system, and, if such a thing were possible, the three-shift system. The usefulness of existing facilities would thereby be doubled, capital expenditure and depreciation reduced, and the number of voyages of ships correspondingly increased.

Dredging of River Mersey.

That the Port of Liverpool acted in rivalry towards other ports which provided it with an extensive source of revenue, is a comment which is sometimes heard, since the Mersey Docks and Harbour Board reaps in each year a big revenue in dues in respect of every ship passing Liverpool *en route* for Manchester, Garston, or Ellesmere Port. The facts are that the entrance to the Ship Canal must of necessity be through the Mersey, and the Dock Board, being the Port Authority, has a large dredging bill to foot each year in order to keep the channels free of silt, thereby providing vessels bound for Manchester, Garston, and Ellesmere Port, a free seaway. Thus the cost of this expensive service has to be contributed to by Manchester.

Manchester Rivers Department.

Manchester Corporation Rivers Department, in its annual report, mentions that in connection with the acquisition of the new sludge steamship, and to suit the altered design of the vessel, the sludge loading gear at the steamship jetty, which has hitherto operated in a horizontal direction, has been replaced by a modern contrivance with a vertical movement at a cost of £351 1s. 7d. The works electrical circuit has been extended to the loading jetty so as to provide a supply of electric current to the steamship when lying there, and the opportunity has been taken at the same time to illuminate the jetty efficiently by means of floodlights. The cost of these works was £321 11s. 11d. The water to the main jetty, originally laid down 35 years ago, which was found to be badly corroded and practically choked, has been renewed during the year.

Wallasey Ferries.

Wallasey Ferries Committee received five tenders for the purchase of the passenger steamer " Royal Daffodil," which was recently taken off the service, and has decided to accept that of a Rochester firm. The amount to be paid is stated to be about £2,500, and it is belived that the vessel will be used for pleasure trips from Chatham and Rochester to Southend or Margate. The " Royal Daffodil," tenders for a successor to which are to be invited, cost £21,550 in 1906.

Irish Harbour Matters

Cork

Cork Harbour Board.

AT a meeting of the Cork Harbour Board, Mr. R. Wallace, P.C., presiding, Mr. Frederick O'C. Saunders, B.E., was promoted to the position of Harbour Engineer (rendered vacant by the retirement on 30th April last of Mr. Price) at his present salary of £500 a year. Mr. Saunders has acted as Assistant Engineer for eight years to the entire satisfaction of the Board.

Mr. D. J. O'Neith, B.E., was appointed Assistant Harbour Engineer at a salary of £120 per annum, rising by increments of £25 to £300.

At another meeting of the Cork Harbour Board, the retiring chairman, Mr. R. Wallace, presiding, Mr. A. J. Magennis was unanimously elected chairman for the next twelve months.

Retiring after five years term of office, Mr. Wallace said he had made up his mind to apply his energies more remuneratively. He thanked the members and officials for their co-operation, which, he said, had made his task an easy one.

When the business meeting was finished, Mr. R. S. Anthony, T.D., took the chair, and a presentation was made by the members to Mr. Wallace. The presentation was made by Alderman F. J. Daly, and several members joined in paying tribute to Mr. Wallace.

Wexford

Wexford Harbour Board.

At a meeting of the Wexford Harbour Commissioners, the Chairman stated that owing to the economic war, Wexford had lost a lot of its income. The City of Cork Steampacket Co. had ceased trading with Wexford, and would not be seen again in Wexford, even if the economic war were closed. They could not adjust their rates and expenditure in the existing circumstances as the Minister for Industry and Commerce had suggested. If they did they would further reduce a certain amount of their tonnage. They were up against the opposition of Rosslare Harbour, which was a privately owned port, and in order to encourage trade to Wexford they had had to reduce their rates. On the other hand, if they increased their rates they would divert traffic to Rosslare.

Alderman Billington said that they had lost £28,000 of their revenue, a lot of which had gone to Rosslare Harbour, which had increased its trade. In order to show that present relations between the Free State and Great Britain were the cause of financial difficulties, Alderman Billington mentioned that in the year ended March 31st, 1932, the tonnage at Wexford Harbour was 74,668 tons, and for the year ended March 31st last the tonnage had fallen to 53,470 tons. That was a drop of over 20,000 tons within one year since the start of the economic war. On March 31st, 1932, the board had a deposit in the bank of £5,831, and to-day they had £3,000, which meant they had lost £2,831 since the economic war began. The board, he suggested, should point out those facts to the Minister and make a claim in respect of it. They should further point out that, owing to the decrease in shipping, the bar in the harbour had rendered shipping very difficult, which would not be the case if the trade of the port had not declined. If they did not communicate with Mr. Lemass, they should appoint a deputation to wait on him.

The Chairman said that in regard to the Minister's statement, all he had to say was that when their board sent their annual statement of trade and their accounts, they drew the attention of his department to the fact that they were losing ground rapidly, and special attention was drawn to their financial position. " I don't think it is correct, therefore, of Mr. Lemass to say that no representations had been made. We have made representations to the Department that we are on the down grade, and at no time were we so badly off as now."

It was decided to communicate on the lines of the discussion with the Minister, and to inform the Ports and Docks Board that they would be glad to collaborate with the representatives of other ports on the Bill referred to in the Board's letter.

Dublin

Dublin Dockyard Company.

Members of the Royal Institute of Architects (Ireland) recently paid a visit to the works of the Dublin Dockyard Co., at Alexandra Basin, Dublin. They were conducted over the premises by the Management and were interested to observe the work which is in progress. The main contract at present is one for the Great Southern Railways, and the Dockyard Co. is undertaking the fabrication and erection of 1,000 tons of steelwork for the new erecting shops at Inchicore. The heaviest items are the crane girders which weigh from five to ten tons each. The steelwork is imported in an unfabricated state from Messrs. P. and W. Maclennan, Glasgow, and after the necessary treatment at Alexandra Basin, is transported to Inchicore for erection. The importance of the contract can be gathered from the fact that the total import of unfabricated steel into the Irish Free State is only about 8,000 tons.

Free State Harbours (Rates) Bill.

At the instance of the Dublin Port and Docks Board, a conference of Free State Harbour Commissioners was held in Dublin on 10th November, to discuss the Bill introduced by the Government with regard to the management of Free State harbours, especially with regard to the regulation of rates.

Wicklow

Position of Wicklow Harbour.

At a meeting of Wicklow townspeople and traders held at the instance of the Chairman of the Wicklow Harbour Commissioners, a statement was submitted by the Secretary of the Commissioners showing that harbour income barely met expenditure. The Urban Council this year had got permission to raise £5,000 to repay debt arrears, and nothing was being paid off the arrears of the loan and income tax, the latter amounting to £214. Every such payment on loan, income tax arrears, income tax itself, and repayment to Urban Council, he said, was treated as profit and subject to income tax, even though it meant that the Harbour Commissioners ended the year almost with a deficit.

The Chairman said that the harbour was costing the ratepayers this year 2s. 3d. in the £, and they were repaying loans which had been raised from the British Government, and which had been cancelled or repudiated by the Saorstat Government, who were themselves insisting on their collection and then imposing income tax on repayments. He protested against the anomaly.

Mr. J. Everett, T.D., said that local bodies had represented this to the Departments, who replied that they had no power to remit such taxation.

It was decided to appoint a committee to prepare a case to present to the Minister seeking relief.

Sligo

No Grant for Sligo.

There was little prospect of getting a grant for the improvement of the port, said Mr. H. Campbell Perry (Chairman) at a meeting of the Sligo Harbour Board.

The Secretary stated that when flour imports stopped they hoped that wheat imports would show a corresponding rise, but since 1st September no wheat had been discharged. There was a mile of railway wagons with wheat at the Ballesodare Mills, and it was hoped that that firm would be induced to use the port instead of the railway. It would be a serious position for the port if the wheat trade were lost.

Mr. A. P. Jackson said that it was unnecessary to point out that Sligo was the dearest port in the Free State. In addition to the usual harbour dues there were the labour charges, and he felt he would not be doing his duty to his firm by bringing wheat through the port. The labour question had become a stumbling block impossible to deal with.

Brisk Business at Bristol

The amount of tobacco landed at the Port of Bristol in one week recently, is sufficient to provide each person in the United Kingdom with a quarter of a pound. Six steamers have between them brought 13,300 casks of tobacco, all of which will be stored in the bonded warehouses. The modern Transit Sheds and spacious quays in the heart of the City have lately presented a busy spectacle, for, in addition to the cargoes of tobacco, two steamers from the Mediterranean have landed one hundred thousand cases of dried fruit—an indication of the nearness of Christmas—while liners from Canada, America and the Continent have also discharged a wide variety of general cargo.

The Agents-General of the principal Australian States who were visiting Bristol in connection with the Imperial Fruit Show were taken around these docks by the Chairman of the Port Authority, Alderman Edward M. Dyer. Later these gentlemen visited Avonmouth, where they inspected the facilities available for the handling of Australian produce.

Mersey Docks and Harbour Board

Annual Report for the Year ended 1st July, 1933

AT a meeting of the Mersey Docks and Harbour Board, held on November 16, 1933, the annual report for the year ended July 1st, 1933, was presented by Mr. Richard D. Holt (chairman). The report was as follows:—

" Gentlemen,—The accounts for the year ended July 1st, 1933, and the Engineer's Report on Works are now before the Board.

" The year under review has not been satisfactory for any of the important industries of the country and the bad state of trade generally must be reflected in the Board's Accounts.

" As compared with the previous year there is a falling off in revenue of £145,573, the major loss being in the receipts from Rates and Dues, which amounts to £118,506, approximately 5.4 per cent. of the amount received in the previous year. Rates and Dues are the best measure of the trade of the Port as they are levied on the volume of traffic passing through the Port. The maximum decrease took place in the middle of March when the revenue had fallen by over £130,000, including Conservancy receipts, whereas on the 1st July the deficiency as compared with the previous year was just under £120,000, and I am glad to be able to state that since the 1st of July there has been a substantial improvement in the revenue which is now almost precisely the same as it was two years ago. This suggests that there may be a real turn in the tide, which even though it is of a modest character will be welcome to all.

" The number of ships has fallen from 19,363 to 17,074—a drop of 11.8 per cent., but the tonnage of ships has only fallen from 19,080,728 to 18,758,829, a drop of 1.7 per cent. This is rather remarkable—and a careful investigation shows that it is due to a striking falling off in the Coastwise and Cross-Channel trade, the number of vessels entering the Port in this trade having fallen from 14,172 to 12,085, a decrease of 2,087, while falling off in the foreign trade was from 5,191 to 4,989, or 202.

" There can be very little doubt that one of the principal causes of misfortune is the continued stoppage of trade with the Irish Free State. The number of vessels paying dock tonnage rates engaged in this trade has fallen from 2,509 to 1,749, a loss of 760 ships, which is more than half in number of the total loss sustained in coastwise vessels paying dock tonnage rates—1,329—while in tonnage it represents a much greater loss—namely 167,577 tons out of 222,340.

" These figures show clearly what a serious matter the Irish dispute is for the welfare of the district served by the Port of Liverpool.

" As might be expected the other sources of revenue also show a decline, but on the other hand there has been a reduction of expenses of £70,123, leaving a deficiency on Working Account of £17,157, which has been met by a transfer from the Unappropriated Receipts Account. No payment to the Sinking Fund is possible, but it appeared preferable to omit this payment than to hamper the revival of trade by raising the charges on the traffic of the Port.

" The low rates of interest ruling during the year have been most helpful. Matured Bonds to the value of £3,795,112 bearing interest at an average rate of £4 17s. 6d. per cent. were either paid off, renewed or converted into 3½ per cent. Debenture Stock during the year. Of these £1,768,184 were renewed at an average rate of £3 14s. 2¼d. per cent., £129,073 were converted at 3½ per cent. Stock at 96½ per cent., while £1,897,855 were paid off. New money to the amount of £2,864,242 was borrowed on Bonds at an average rate of £3 15s. 2¾d. per cent. The corresponding rate for renewals last year was £4 17s. 3¼d. per cent. and for new money £4 17s. 4¼d. per cent. At the end of the year the Board decided to fund a further portion of its debt and issued £800,000 of 3½ per cent. Debenture Stock ranking *pari passu* with the previously existing 8½ million pounds of Stock. A price of 96½ per cent. was obtained and the total expenses and commission only amounted to £1,008 15s. 8½d. The issue was in substitution for Bonds falling due on 1st July and 27th September, 1933, and 1st January, 1934.

" The Bidston Dock and the reconstruction of the Central Docks have been completed and no new Works of importance are in contemplation, so that there should be a cessation of capital expenditure for some considerable period.

" The Conservancy Account is in a most satisfactory condition and it has been possible to meet the major part of the expenditure on the new training banks by a transfer from revenue. The channels have been well maintained and dredging has been considerably reduced. The new sand pump dredger " Hilbre Island " is proving a most efficient and economical tool.

" Taking a general view of the position I think we may look forward with hope to the future. Improvement in trade and an increased revenue, though on a small scale, appear to be a reasonable expectation, and there should be a steady increase in economies of administration, to which constant attention is given, and a considerable reduction in interest should follow, as the Bonds issued at the time of high rates of interest fall due for repayment.

" Again in the name of the Board I have to thank all our Officials for the energy and care which they have given to the service of the trade of the Port."

Bremen's Seagoing Shipping Traffic during September

During September altogether 745 vessels with 593,807 net registered tons arrived. Compared with the previous month the number of vessels is about the same. Tonnage, on the other hand, is approximately 104,000 tons, or 15 per cent. less; this is partly due to the seasonal limitation of regular services, particularly in the North Atlantic traffic. Compared with September, 1932, the number of vessels increased by 54, whereas tonnage decreased by 67,560 net registered tons or 10 per cent.

From January to September, 1933, altogether 5,395 vessels with 5,593,404 net registered tons arrived, against 4,683 vessels with 5,833,097 net registered tons in the same period of the previous year. Thus 712 vessels, equal to 15 per cent., more arrived, whereas the tonnage was 229,693 net registered tons, or 4 per cent. less. This is due in part to the sailings of the " Leviathan " having ceased, also further curtailments had to be undertaken in the line services, particularly in regard to the size of the vessels; also the type of tramp vessels serving Bremen has changed. Through the reduction of imports of foreign grain, the number of larger tramp steamers decreased, while smaller tramp ships and motor vessels for exports of coal and grain traffic from the German Baltic Sea ports increased.

Seaborne goods traffic of the five most important Weser ports showed a decrease in September. With 394,600 tons, 46,700 tons or 10 per cent. less were imported and exported than in August, and 43,500 tons less than in September, 1932. Imports during the month under review were 198,600 tons. That is 8,800 tons or 4 per cent. less than in the previous month. Chiefly cotton and wool, mineral oil, piece goods, timber and coal showed decreases, but these reductions were considerably offset through larger grain imports, which came chiefly from German Baltic ports, as well as through larger landings of phosphate, oil seeds and rice, and finally also through the blubber and pyrites transports. Exports with 196,000 tons were 37,900 tons or 16 per cent. less, chiefly due to the falling off in coal, piece goods, and potash and salt shipments. Compared with September, 1932, imports were 33,100 tons or 14 per cent., and exports 10,400 tons or 5 per cent. weaker.

During the months from January to September, 1933, altogether 3,526,400 tons were imported and exported, compared with 3,445,500 tons in the same period of the previous year. Goods traffic was thus 80,900 tons or 2 per cent. larger. Imports with 2,037,200 tons remained 100,700 tons or 5 per cent. less, chiefly due to decrease in grain imports, which were almost 250,000 tons less. The figures for coal, mineral oil and bananas also declined; however, there were increased arrivals of piece goods, timber, phosphate and blubber.

1,489,200 tons or 181,600 tons, equalling 14 per cent. more were exported. Coal and coke shipments have increased considerably. Potash, salts, piece goods and scrap also increased. Transport of iron and grain decreased.

Improvements at Blyth Harbour, Northumberland

FOR a number of years the Commissioners for Blyth Harbour have carried out a systematic programme of repairs and renewals on the numerous timber quays and jetties in the port. This programme is still being pursued, and in the near future all such structures will be in first-class condition and available for many years' further service.

The Port Officials have given special attention to the problem of attack by marine borers; selected greenheart timber has been used throughout for all timber work re-construction below half-tide level, and further investigations are being made with a view to getting the utmost resistance to the Borer menace. A small jetty was constructed in Australian turpentine timber, and careful observation has been maintained on it since its completion early in 1932—no attack has been recorded to date. In all, eight fairly large structures have been either completely or partially re-constructed.

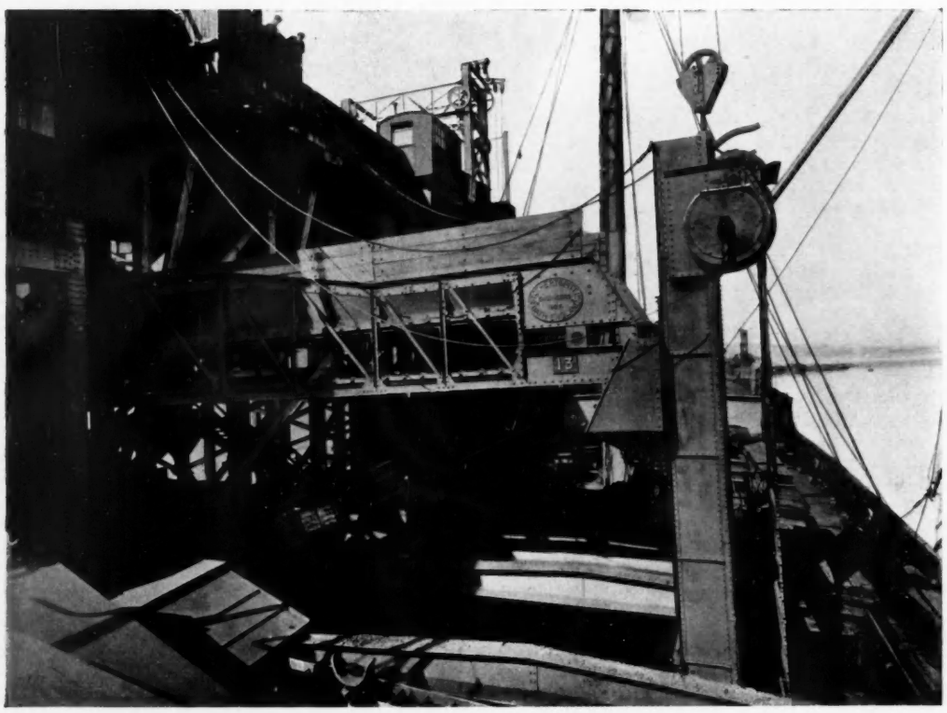
The timber piles supporting the overhead coaling staiths belonging to the London & North Eastern Railway Company on the North side of the Harbour have also been attacked by borers, and it was realised that if this was allowed to go on unchecked until the stability of the understructure was impaired a serious situation would arise when replacements became necessary; at least, considerable dislocation of the coal-shipping facilities would be entailed and even complete stoppage at times might be necessary.

It was decided to encase all the piles in cement mortar from below mud-level to half-tide level, and to date over 700 piles have been protected in this manner, and work is proceeding on the remaining 200 piles. This work was considerably expedited during the current year, when a contract was let to the Concrete Proofing Company to encase all the unfinished piles from low water to half-tide level by means of the cement gun; 317 piles were completed by this process, and the underwater portions of these piles are now being encased in the ordinary way.

As will be seen from the map on this page the Port of Blyth is situate in the middle (measuring north and south) of the Northumberland Coalfield, and is the natural port of shipment for most of the coal produced in this area.

In 1929, no less than 5½ million tons of coal was shipped from the port, which constituted a record, and up to October 14th this year 4,348,896 tons left the port, this being only 9,214 tons less than for the corresponding period in the year 1929. It is, of course, not safe to prophesy, but the trade prospects are such that there is every justification for the belief that the 1929 figures will be exceeded at the end of 1933.

About six-sevenths of the coal is the output of collieries on the north side of the river, the principal pits being those of the Ashington Coal Co., Ltd., the Bedlington Coal Co., Ltd., Newbiggin Colliery Co., Ltd., the Owners of the Bentinck West Hartley Colliery, the Netherton Coal Co., Ltd. and the Cambois and North Seaton Collieries belonging to the Cowpen Coal Co., Ltd.



Coal Conveyor and Anti-Coalbreaker, West Staiths.

The coal shipping facilities of the port are modern, the West Staiths consisting of two berths being the newest, having been opened in 1928; since then, the appliances have been improved to meet the wishes of the various Colliery Companies shipping coal at this point until at the present date they can be considered to be the latest thing in coal-shipping equipment. At the port there are altogether 18 gravity spouts and 5 belt conveyors belonging to and worked by the London & North Eastern Railway Co. In order to reduce breakage of screened coal to a minimum anti-coal breakers have been provided at 5 berths, and in addition, there is a telescopic tube apparatus which deals with smaller ships not exceeding 1,000

Improvements at Blyth Harbour, Northumberland—continued

N.R.T. The latter appliance is quite a new idea, and consists of a hopper with a telescopic tube attached, the tube reaching to the bottom of the ship's hold. Coal travels down the spout into the appliance, and by degrees telescopic sections are lifted from the bottom upwards, thus allowing a cone to be formed which will reach practically to the bottom of the spout. When this is accomplished the appliance is removed and teeming takes place in the ordinary way.

With the idea of still further preventing breakage, some of the spouts have been fitted with rubber on the face of the trap, and to make easier the raising and lowering of the spouts machinery is being fitted with ball bearings, and this will result in the quicker loading of vessels.

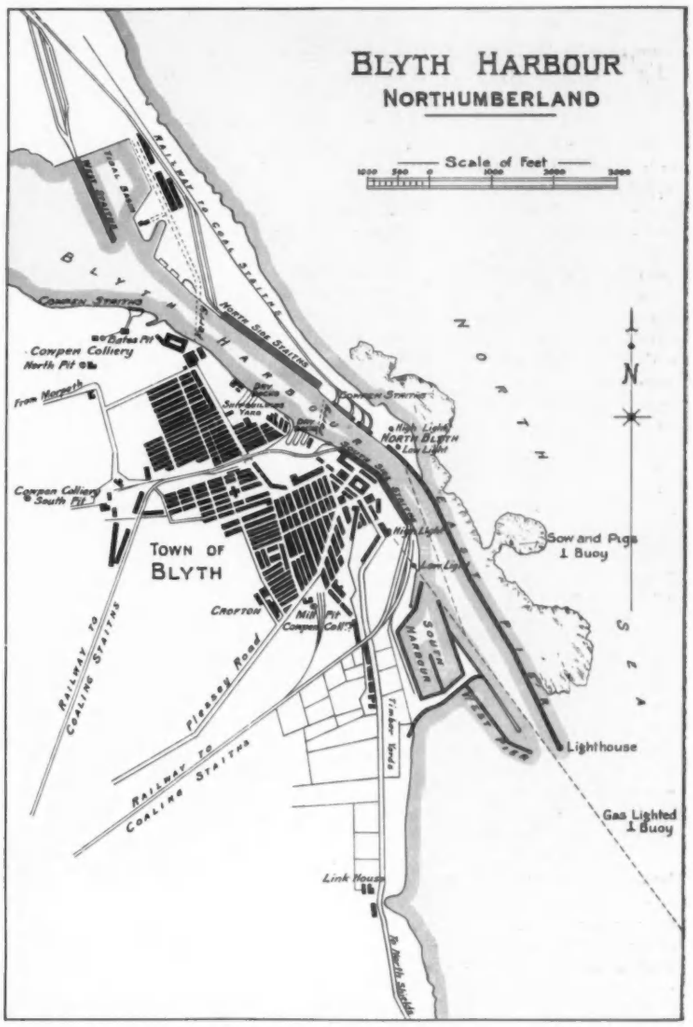
The maximum loading capacity of each " spout " berth is about 1,000 tons per hour, and that of the " conveyor " berths from 500 to 800 tons per hour. In actual working over a long period the average per berth worked out at 280 tons per hour.

The depths at four berths at L.W.O.S.T. is 30-ft.; at other four it is 27-ft.; and at the remaining two it varies from 21 to 24-ft. The rise and fall of an average spring tide is 14-ft. and neap tide 9-ft.; it will therefore be seen that large-size vessels can be accommodated without any fear of grounding at low water. The depth of water on the bar and in the channel from the East Pier Lighthouse to the West Staiths is 24-ft. L.W.O.S.T.

The Cowpen Coal Co.,—who already have two berths at the north side of the river—are constructing new staiths on the south side in the upper part of the river, and these will have a depth of water alongside of 27-ft. at L.W.O.S.T. These staiths, which it is understood will be ready for the acceptance of coal for shipment by the beginning of next year, are equipped with belt conveyors of the most approved type, and an anti-coal breaker. The maximum loading capacity of these conveyors will be 600 tons per hour each.

The coal-shipping facilities of the port are capable of shipping at least 33,000 tons per working day, and when the Cowpen Staiths just referred to commence to operate this quantity will be added to to the extent of about 3,000 tons per day.

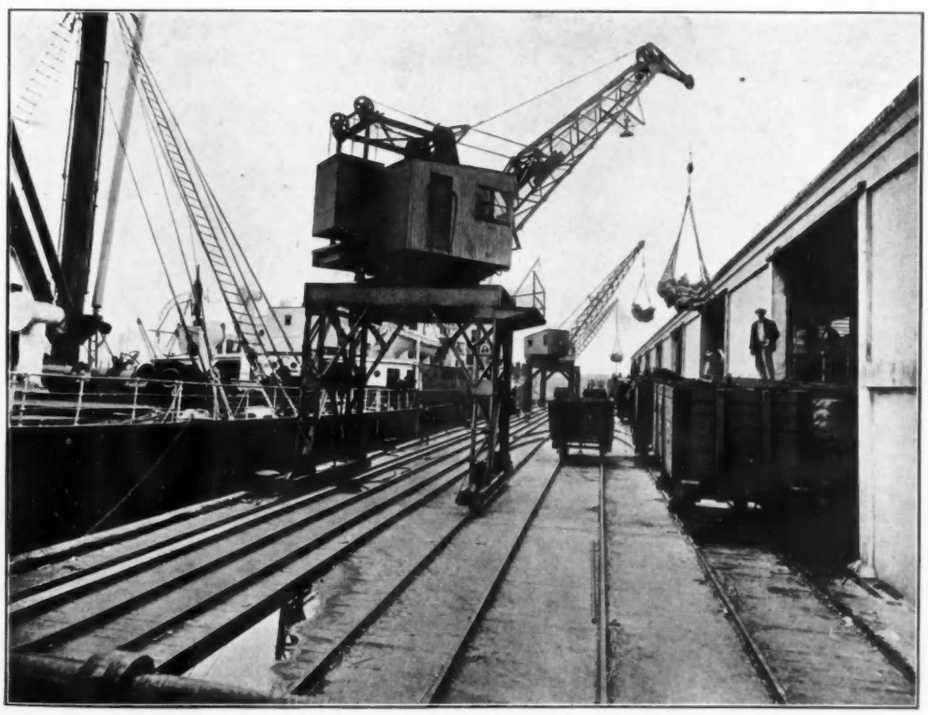
With a view to avoiding any congestion of shipping waiting for turn at the loading berths, the Commissioners recently decided to widen the Tidal Basin at the West Staiths. A contract for this work has been let to Sir Robert McAlpine & Sons (Newcastle-on-Tyne), Ltd. The scheme involves the construction of a river wall 1,000-ft. long in Larssen Steel Sheet Piling suitably anchored back to a continuous concrete block and the excavation of the ground in front to a depth of 24-ft. below low water. On completion, the deep-water area of the harbour will be increased by about 5 acres and ample accommodation provided for fourteen vessels without encroaching on the waterway adjac nt to the loading berths at the staiths.



In addition to the export of coal, what is known as the South Harbour, West Side, is excellently equipped for the import and export of general cargoes. The depth of the water at the berths varies from 17 to 21-ft. at L.W.O.S.T., and the quays are equipped with the most modern type of electric cranes, ensuring the rapid loading and discharging of goods. Warehouses accommodating up to 10,000 tons of general cargo are available, and there is ample open storage room.

The harbour dues on vessels using the port are very low indeed, and in order to assist shipping to keep down costs, the harbour dues on vessels calling for " bunkers only " and " entering the port for refuge " were recently reduced from 1½d. to ¾d. per N.R.T.

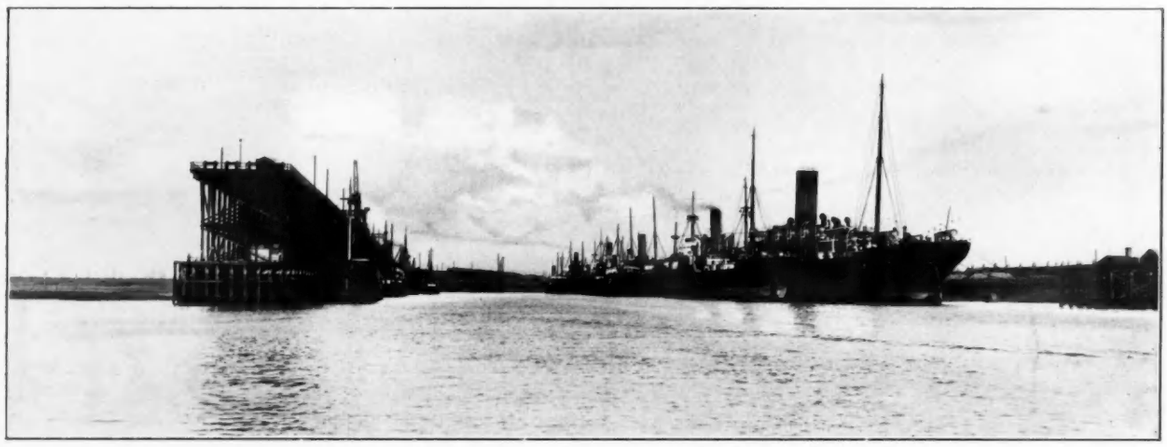
Ship building and ship repairing is carried on at the port by the Blyth Dry Docks & Shipbuilding Co., Ltd. There is a complete system of steam and elec-



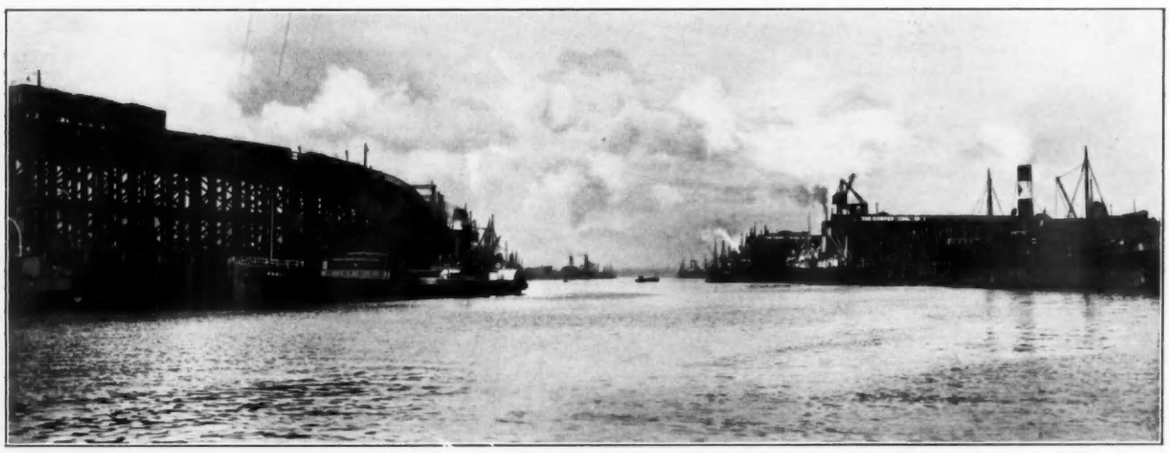
South Harbour: Discharging Vessel by Electric Cranes.

Improvements at Blyth Harbour, Northumberland

Entrance to the Harbour.



West Staiths and Waiting Berths.



Middle Harbour, showing portion of South Side Staiths and the Cowpen Coal Company's North Side Staiths.

Improvements at Blyth Harbour, Northumberland—continued

tric travelling cranes and sheer legs, the latter being capable of lifting 50 tons.

The company have five dry docks, the dimensions of which are as follows:—

No. 1 Dock—378-ft. by 55-ft. by 20-ft. 6-in.; No. 2 Dock—320-ft. by 55-ft. by 20-ft. 6-in.; No. 3 Dock—480-ft. by 60-ft. by 22-ft. 6-in.; No. 4 Dock—345-ft. by 44-ft. by 17-ft. 6-in.; No. 5 Dock—312-ft. by 45-ft. 6-in. by 19-ft.

Italian Harbour Affairs

ACCORDING to statistics which have just been published, shipping at Italian ports during the month of September, 1933, included the arrival of 20,540 ships representing 7,737,775 n.r.t. carrying 2,077,267 tons of goods and 376,320 passengers, and the clearance of 20,616 ships representing 7,696,837 n.r.t. carrying 746,022 tons of goods and 372,610 pasengers. The total traffic reached, therefore, 41,156 ships arrived and cleared representing 15,434,612 n.r.t. with 2,823,289 tons of goods and 748,930 passengers. During the corresponding period of 1932 shipping at Italian ports included 19,714 ships arrived representing 6,599,428 n.r.t. with 1,635,301 tons of goods and 428,227 passengers, and 18,858 ships cleared representing 6,724,295 n.r.t. with 749,181 tons of goods and 376,289 passengers. The total traffic at Italian ports, during the month of September, 1932, has reached thus 38,572 ships arrived and cleared representing 13,323,723 n.r.t., 2,384,482 tons of goods and 834,516 passengers. There has been a considerable increase in goods imported and exported. Passengers arrived and cleared have shown a decrease. The share of the Italian Mercantile Marine in the above trade has reached 95 per cent. in regard to the number of ships arrived and cleared, 80 per cent. in regard to the net register tonnage and 65 per cent. in regard to goods arrived and shipped, while in September, 1932, the respective percentages were 96, 81 and 69.

Though official statistics regarding the details of traffic have not been published as yet, the situation can be judged through the statistics which have been published by the various port authorities. Shipping at Genoa during the month of September, 1933, included imports of 449,271 tons against 338,563 tons imported during the month of September, 1932, and exports of 74,681 tons against 76,157 tons shipped during the corresponding period of 1932. Shipping at Genoa during the first nine months of 1933 included imports of 3,967,654 tons and exports of 554,567 tons of goods, against 3,688,801 tons imported and 655,421 tons exported during the period from January to September, 1932, and against 4,372,002 tons imported and 603,399 tons exported during the corresponding period of 1931. The situation of shipping at Genoa reflects the state of Italian shipping as a whole, since at the largest Italian port imports have increased while exports have shown a decline.

At Naples the situation of shipping has improved, as it can be seen from the statistics, which have been published by the port authorities for the month of September, 1933, and which show an increase of 17,616 tons of goods in respect to the corresponding period of 1932. Among the goods imported at Naples during the period in question may be mentioned 49,778 tons of oil, 34,136 tons of coal, 7,905 tons of lumber, etc. There has been, during the month of September, 1933, a noteworthy activity in connection with exports, particularly to North Europe and the Far East, and precautions have been taken by the port authorities to avoid congestion. Furthermore, thanks to the intervention of the Ministry of Public Works, unloading facilities in the port of Naples have been increased by six electrical portal cranes of a capacity of three tons each, built by the Cranes Department of the Societá Anonima Ansaldo and Co. Of these cranes, two will be fitted on the eastern side of the Molo Cesario Console, one on the Marinella quay, and three on the eastern side of the Vittorio Emanuele Pier. The four electric cranes which are at present situated on the Sacramento Quay are to be transformed into portal cranes, and are to be transferred to the Vittorio Emanuele Pier where the new Customs Office is to be erected.

According to statistics which have been published by the Provveditorato del Porto di Venezia, shipping at that port during the month of September, 1933, included the following figures:—

	Imports Tons	Exports Tons	Total Tons
September, 1933 ...	205,800	37,804	243,604
„ 1932 ...	167,573	45,763	213,336
Total ...	+38,227	—7,959	+30,268

The increase in imports is due particularly to larger arrivals of coal (+19,500 tons), oil (+21,500 tons), salt and tobacco (+1,800 tons), cotton (+1,100 tons), while the imports of cereals have shown a decline of 3,700 tons and the imports of general cargo a decline of 1,972 tons. The decline in exports is due to smaller shipments of coal (—1,500 tons), of oil (—5,000 tons) and of general cargo (—4,160 tons). As a whole shipping at Venice, during the period from January to September, 1933, has shown an increase of 46,159 tons corresponding to 2.17 per cent. in respect to the first nine months of 1932. According to information from Venice, it would appear that the Provveditorato del Porto has undertaken the necessary works to render possible the direct unloading from ships into motor trucks. Furthermore, the fitting out of Pier A, particularly as far as the electric plant is concerned, has been completed. It would appear also that the electric unloading facilities are to be increased in the Marittima Zone. The Government has taken steps to improve the lighthouses at the entrance of the Port of Venice, and in connection with the situation of Adriatic ports it may be interesting to add that two dredgers are working with great speed to increase the depth of water in the Port of Barletta where there has recently been a considerable increase in the imports of coal on behalf of the Italian State Railways Administration.

The Consiglio Provinciale dell'Economia at Trieste (Chamber of Commerce and Industry) has published a detailed account of shipping at that port during the first nine months of 1933, which may be summarized as follows:—

	1933 Centals	1932 Centals
ARRIVALS		
By Rail	3,666,180	3,792,416
By Sea	9,798,081	12,156,275
Total ...	13,464,261	15,948,691
CLEARANCES		
By Rail	5,016,936	6,324,701
By Sea	3,505,418	3,632,031
Total ...	8,522,354	9,956,732
TOTAL		
By Rail	8,683,116	10,117,117
By Sea	13,303,499	15,788,306
Total ...	21,986,615	25,905,423

The depression in shipping at Trieste is due chiefly to imports by sea, while exports by sea during the first nine months of 1933 have been practically the same as those during the corresponding period of 1932.

Manchester Ship Canal Traffic.

In the monthly approximate traffic return for October of the Manchester Ship Canal Company it is stated the receipts from the main waterway were £90,192, or £14,112 more than in September, and £5,754 more than in October last year. There is usually a considerable increase in receipts during October as compared with September. The total receipts for the ten months ended October, at £918,771, are only £8,100 less than those for the corresponding period of 1932.

Controversy over Use of New Wharf at Scarborough.

The Scarborough Harbour Commissioners have before them a complaint by the local fishermen that the new wharf is being used for the discharging of timber, coal and gravel. Mr. J. Jackson (the chairman) has intimated that, while the Commissioners will be glad to receive a deputation, their duty is to control the harbour in the interests of every trade in the town and not only in those of a single section. Wharves and harbours are made for commerce and in addition to the fishing industry, there are several other trades to be accommodated. The Scarborough Electricity Department, for example, now receive their coal by sea and this alone brings in a revenue of over £300 a year to the port. In the view of the Chairman the Commissioners cannot confine the harbour exclusively to the fishing industry when they have, as at present, large liabilities to meet requiring every possible effort to increase the revenue.

Hull and the East Coast

Trent Falls Improvement Works.

THE HUMBER CONSERVANCY COMMISSIONERS have agreed to increase their supplementary contribution to the extra cost of the Trent Falls Improvement Works in the Humber from £30,000 to £40,000, thus bringing the Board's total contribution up to £116,000. Originally the Board paid £76,000, being one-half of the estimated cost of the scheme, but owing to unforeseen difficulties the estimate has been exceeded, and it was therefore deemed expedient by the Aire and Calder Navigation to apply to the Humber Conservancy Board for further financial aid to enable the work to be completed. In the first instance, as already reported in *The Dock and Harbour Authority*, the Commissioners made an offer of £30,000 as against £56,000 asked for towards the increased cost of £113,000, all of which, it was stated, could be provided without increasing the dues on shipping entering the Humber. The Aire and Calder Navigation, however, pressed for more, and as the result of a further interview the revised sum of £40,000 was agreed upon.

According to the Minutes of the interview, Lord Deramore (chairman of the Aire and Calder Navigation) expressed gratification at the generous offer of a supplementary contribution and said it was hoped that the Board, recognizing the beneficial effects which the works on completion would have on the waters within their jurisdiction, would see their way to supplement their original contribution by a sum over and above the £30,000. Lord Deramore added that he was aware that the improvement works in the Ouse had no concern with the Board's many responsibilities in river conservancy, but he pointed out the appeal was one by the Lower Ouse trustees on behalf of the river interests. The accounts for the Ouse improvement were kept entirely separate. His lordship then proceeded to state that the total capital expenditure on the construction of works and training walls to date was £464,000, which had been advanced by the Aire and Calder Navigation. Of that amount £190,000 had been transferred to the reduction of debt, leaving on June 30 an outstanding balance of £274,000. From figures submitted it would be seen that the total cost of the Trent Falls works to the end of June was £109,000, of which the Conservancy Board contributed £76,000, and £33,000 was spent by the trustees. Up to June, 1934, there would be a further £38,000 expended, making a total of £76,000 contributed by the Humber Conservancy Board and £71,000 by the Ouse Improvement trustees, whose debt would then be increased to £312,000. There remained a sum of £42,000 to be expended after the end of June, 1934. The trustees had also to undertake maintenance, thus removing the responsibility from the Conservancy Commissioners.

Mr. F. H. Hill (solicitor) explained that the Aire and Calder Navigation had already expended £44,415 on the Ouse training wall under the Aire and Calder Navigation's Act, 1914, and actuated by a desire that the expenditure should not be unprofitable, were prepared, in order to see the works carried out, to expend a further sum (now ascertained to be £53,037) in completing the Ouse training wall (seven furlongs) to the limit of the Navigation's jurisdiction. The Navigation, he added, were advised that it would be *ultra vires* on their part to continue the works after July 15, 1934, and that they would not in any case be justified in providing moneys after that date. The moneys advanced by the Navigation are by the Act of 1926 to be debited to the Lower Ouse Improvement funds, and they became a charge on Goole shipping. Mr. Hill further said that the completion of the works was a matter of much too great importance to be prejudiced by minor considerations or any national reluctance on the part of the Aire and Calder Navigation to make a further appeal. They would not have done so had they felt that in fairness to Goole shipowners and to themselves, they could have accepted the Board's generous offer of £30,000 and gone on and completed the works. In expending £153,452 out of their own funds the Navigation would have borne £44,415, £53,037 and £56,000, and they felt that they had gone as far as it was possible for them to go.

Mr. J. H. Fisher (chairman of the Humber Conservancy Board) commented that if the Aire and Calder Navigation had gone to the Board in the first instance and asked for a sum anything like that for which they were asking now, the Board would have turned down the request. The Committee, after consideration of the representations, reported to the Board that they could not see their way to recommend any increase on the offer of £30,000.

The position thus stood when another letter was received from the Aire and Calder Navigation under date October 13, in which it was stated that no instructions would be given by that body for an application in the ensuing session of Parliament for an extension of powers subsequent to July 15th, 1934, unless the Board, immediately after their meeting, notified the Navigation that they could see their way to increase their offer to £40,000. The Chairman, in announcing the receipt of this ultimatum, said that he was a member of the sub-committee appointed to meet representatives of the Aire and Calder Navigation, and he thoroughly agreed with the original recommendation to the Board. He did so knowing all the circumstances which led to the agreement that the Conservancy should subscribe £76,000 to the cost of the " fishtail " scheme and no more. In the Bill which the Aire and Calder Navigation promoted, and which passed through Parliament, the Navigation undertook to complete the works without any reservation whatever. Mr. Fisher added that he still thought the offer the Board made of an extra £30,000 was generous and said that he did not like the terms of the letter, which was practically a demand for another £10,000. The Board, he went on, had always tried to deal with the Aire and Calder Navigation in a most friendly and generous manner, and he was sure it was the wish of the members to continue to do so. If the majority of the Board were prepared to give the £40,000 on the completion of the works provided the Aire and Calder Navigation undertook by a new Act of Parliament to complete the works without any further reservation, he would not be one to object. Mr. Fisher concluded by moving the following resolution:— " That having considered the Aire and Calder Navigation's letter of October 13, in which they state that they will apply in the ensuing session of Parliament for an extension of powers to complete the works, the Board consent to make an additional payment of a fixed sum of £40,000, for which the Navigation asked, when the works are completed, making in all £116,000, on the condition that the Navigation's application to Parliament for an extension of time will include provision to authorise the Board to make the additional payment, and will also include adequate safeguards for the completion of the works, and for the protection of the interests of the Board, and of navigation in general." This was seconded by Mr. J. Bentley Bennett (deputy chairman) and carried without dissent. It was agreed that until such time as the Aire and Calder Navigations Bill becomes available to leave the matter in the hands of the chairman.

Proposal to Dredge the Approach to Victoria Pier at Hull.

Proposals are under consideration to improve the approach to the Victoria Pier at Hull by dredging in order to facilitate the ferry service between Hull and New Holland on the South bank of the Humber. Delays frequently occur at present owing to the grounding of ferry boats on the mud banks, and obviously it is in the interests of the City that a good and regular service should be maintained. In a letter broaching the matter with the Hull Corporation, the London and North Eastern Railway, who own the ferry boats, suggested that as the Corporation own the Victoria Pier they should make it possible by dredging for ferry steamers to get alongside without difficulty. The reply of the sub-committee who considered the letter was that the Corporation could not see their way to do as suggested. Thereupon the London and North Eastern Railway asked whether in the event of their coming forward with a larger scheme for improving the ferry service by providing improved facilities at New Holland, the Corporation would be prepared to provide a more permanent approach way at the Victoria Pier to enable a quicker ferry service to be maintained. The matter having been fully discussed by the sub-committee, a reply was sent to the L.N.E.R. to the effect that if the company would submit their proposals giving more details, the sub-committee would be willing to consider them and later to meet representatives of the Railway Company to discuss the matter. The scheme which is now under discussion is to provide a floating pontoon at the Victoria Pier and a new roadway giving direct access from Nelson Street. Some years ago a comprehensive scheme was put forward to reconstruct the Victoria Pier and carry it forward 300-ft. to the edge of the navigable channel of the Humber and to provide floating pontoons, but this, which was to cost £250,000 or more was rejected by the ratepayers on the ground of expense. What is now proposed is a modest alternative but would still leave the dredging question untouched.

Appointment.

Mr. F. H. Whitehead, who has been appointed collector of dues and market superintendent at Scarborough Harbour, has relinquished the post of collector of statistics for the Ministry of Agriculture and Fisheries and has been succeeded by Mr. W. E. Fisher.

Barmouth Sea Defence Works

Completion of £170,000 Contract

General View of Damage in Min-y-Mor Sector.

BARMOUTH, hemmed in between mountains and the waters of Cardigan Bay, has for years suffered damage and erosion from the sea which south-westerly gales drive in from the open Atlantic, and the recent opening of the new Sea Defence works by the Right Honourable David Lloyd George, O.M., M.P., marked the culmination of a three years' battle with the sea.

Erosion has been going on at Barmouth for a very long time, and an examination of the 1930 ordnance sheets reveals that high water mark has moved inland, and that the amount of land lost in the council's area is about ten acres.

Sea defence works were envisaged many years ago, but cost for a very long time proved to be a formidable barrier to progress. After much discussion, however, a bill was eventually passed through Parliament to enable the works to proceed. In March, 1930, tenders were called for, and in June of that year, The Demolition and Construction Company, Ltd., public works contractors, of 74 Victoria Street, London, S.W.1, were ordered to commence work on a scheme by Mr. S. L. Richards, A.M.I.C.E., of Cardiff, who was appointed by the Barmouth Urban District Council to have charge of the works. They have cost £170,000.

The project was a very large one for a town of the size of Barmouth, where a penny rate raises something under £60, and had it not been for a Government grant, arranged by the Unemployment Grant Committee through the Ministry of Health, it would not have been possible for the town to have undertaken the full extent of the work. An earlier wall forming the Marine Parade was only 500 yards long, and, apart from this, and a privately built wall protecting the Min-y-Mor Hotel, Barmouth had had to depend on a shingle bank and sand dunes for protection against the sea. When storms broke through the bank and flooded large areas, the damaged wall had to be patched up with sleepers. It became obvious in 1929 that patching would no longer suffice, and the Council, therefore, asked their Consulting Engineer, Mr. Stanley L. Richards, to prepare plans for a new wall. As a result, Barmouth now not only has adequate defence against the sea, but also a promenade and marine drive a mile and a half long, and 34 timber groynes, 150-ft. long and 150-ft apart.

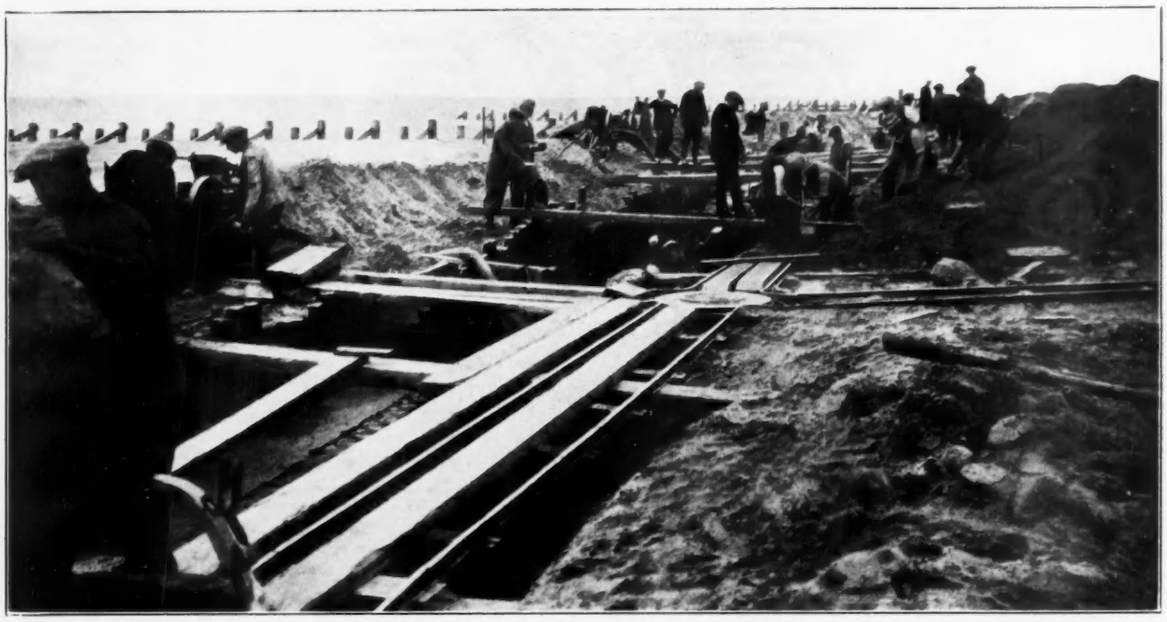
The Sea Defence that Barmouth required had to fulfil two main functions. It had to be high enough to prevent the sea during storms from flooding the low-lying parts of the town, and it also had to be strong enough to resist the direct attack of rough seas upon its surface.

From an engineering point of view, one of the main difficulties lay in the fact that only sand, in some places to a great depth, was available for the foundations, while at the same time the money available for the work was strictly limited. As will be seen from the typical cross section, the foundations for the sea wall and promenade consisted of a bank of sand, approximately 50-ft. wide at promenade level, protected from the sea by a toe wall, sloping apron, and concrete decking, while the back slope was later protected by stone pitching.

It was intended to build the toe wall of mass concrete, but when the work commenced at the Min-y-Mor section, the foreshore proved to be of running sand with large quantities

Driving Steel Sheet Piling for Strengthening at Min-y-Mor.

Barmouth Sea Defence Works—continued



Tidework Excavation in the Foreshore for the Toe Wall.

of water, with the result that the design of the toe was changed and it was constructed in reinforced concrete, 3-ft. wide and 7-ft. deep. This toe wall was supported on 12-in. by 12-in. R.C. piles, driven into the foreshore at 10-ft. centres.

The lower part of the seaward slope of the sand-bank was protected by concrete steps having 24-in. wide treads and 8-in. risers springing from the toe wall. The level of the top of these steps was 12.00 O.D. and the coping level was 16.5 O.D. The 1:3 slope between these two levels was protected by an apron formed of reinforced concrete, faced with a pitching of random sized squared stones of Welsh granite from Minffordd. The pitching was set in green concrete and grouted in 3:1 cement mortar. The top of the sand slope was decked with reinforced concrete, and formed the Promenade and Roadway.

At the top of the sloped apron, a coping of dressed Trevor granite formed the seaward edge of the Promenade 18-ft. 6-in. wide, which was formed of a concrete decking 7-in. thick, reinforced with B.R.C. fabric. Beyond this was a roadway 25-ft. wide of 7-in. concrete, reinforced with Twisteel fabric. The level of H.W.O.S.T. is 8.25 O.D., and while the level of the coping (16.5 O.D.) is sufficiently high to prevent flooding in calm weather, during storms the water is driven up the sloped apron and over the promenade. To prevent flooding, therefore, a low protective masonry wall was built of stone quarried from the mountains behind the town, surmounted with a cock and hen coping.

For road crossings, openings, flanked by masonry lamp bases carrying electric light standards were provided at suitable intervals. These openings were paved with granite setts where road and promenade were on the same level, while granite steps were provided south of Min-y-Mor, where the road is higher than the promenade. To give access to the beach from the promenade, approaches consisting of steps and slipways were built in Trevor granite.

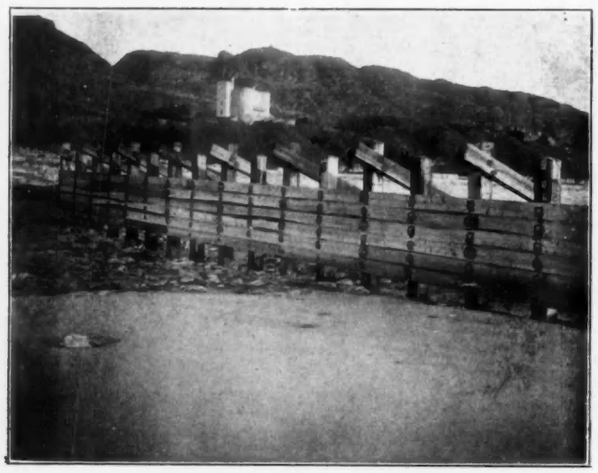
The foreshore level along the site of the works at the time of construction varied very considerably from point to point, and the position and level of the toe was determined by the level of the foreshore when the work was put in hand.

The minimum section consisted of 4 concrete steps built of stone pitching, the level of the top of the toe wall being 10.00 O.D. At various places, where the foreshore was lower, the toe wall was advanced and additional concrete steps were provided. The worst section was at Min-y-Mor, where the level of the lowest step was 3.0 O.D. and the horizontal distance toe to coping was 40-ft. instead of the minimum 20-ft.

At the southern end of the town, between the railway and the wall was an area of sand dunes of considerable height, and the sand from these was used to form the bank on which the wall and promenade were constructed. A standard gauge railway was laid throughout the length of the work and was connected with the G.W.R. for the reception of supplies.

It was also used for transporting the 100,000 cubic yards of sand filling, grabbed from dunes by 3-ton steam cranes and loaded into Manchester Ship Canal type side tipping wagons. A six-wheeled steam loco was used to haul these trucks to the site of the tipping, and the track was jacked up and packed as the bank was raised.

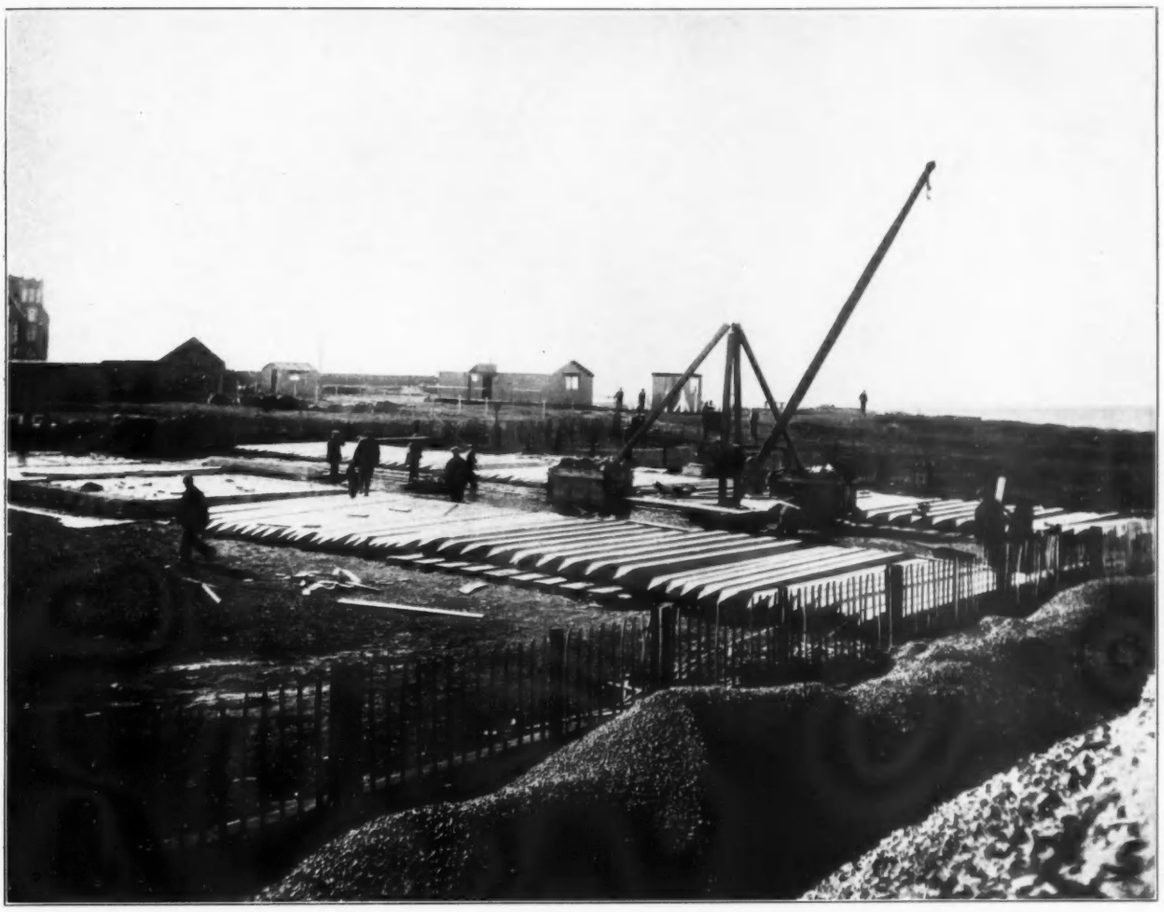
Since the bank formed the foundation for the apron and decking, it had to be tipped ahead of the concrete work, and during the time that elapsed before the apron was completed, much filling was lost by the unimpeded action of the sea at high water. Water was used to consolidate the sand filling which was afterwards surfaced by rolling with a 6-ton diesel roller.



Showing Scour under Groyne 39.

The Steps of the New Wall in front of the Old Sleeper Defences. May 20th, 1931.

Barmouth Sea Defence Works



Casting Concrete Piles for Toe of Sea Wall.

Showing Scour under Rood Slabs at Llanaker Return End—where Protective Wall is built.

NOTE—Coping on Protective Wall next to Lamp Base has been dislodged by wave action; Large Stones thrown about by Sea—from Foreshore.

Barmouth Sea Defence Works—continued

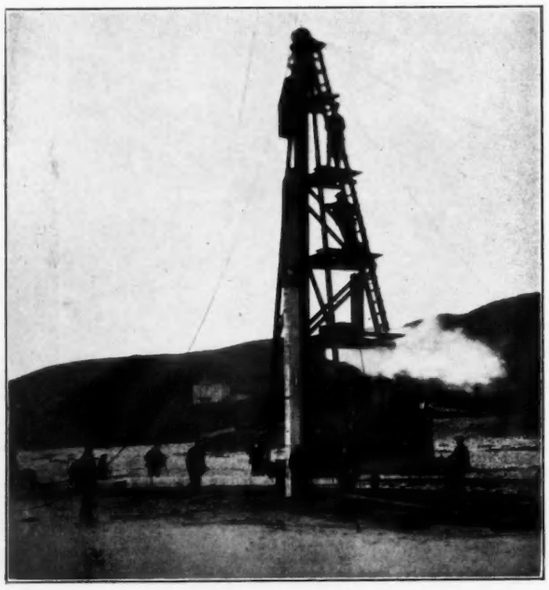
A View of the Groynes and Sea Defences.

On the question of expense, the engineer had had to cut the toe wall down to a minimum, and the periodical variations in the level of the foreshore gave due warning of the danger of the foot of the 7-ft. toe being exposed, owing to the scouring of the beach. This was a very serious danger, since once the sea got under the toe wall, the sand filling would quickly be sucked out from under the apron and decking and the collapse of the work would follow.

To guard against this danger, 34 timber groynes were constructed along the length of the work, normal to the sea wall. In general, these groynes have proved successful in accumulating and retaining the beach, and in most places, the level of the foreshore is many feet higher than when the work was commenced. This is illustrated by the fact that the foundation stone, which was laid in the apron in January, 1931, well above the beach level, is now completely buried under many feet of sand, while some of the groynes are nearly buried by sand, their position only being detected by the tops of the piles.

The groynes are of pressure creosoted pitch pine timber and consist, in essence, of a row of 12-in. by 12-in. piles supporting 11-in. by 3-in. horizontal timber sheeting, with raker supports to a second row of similar piles. The main piles were at 5-ft. centres and the stay piles were at 10-ft. centres. Every other main pile was braced by a 12-in. by 6-in. raking timber to the stay piles.

The surface water from the roadway is drained to the sea through 6-in. pipes, laid to outlets in the pitching, provided with tide flaps. Concrete storm water outfall pipes were built in the work, the toe wall being built around the pipes. On the seaward side of the wall, these pipes were cast iron and were carried on timber cradles supported on piles. The ends of the pipes were provided with the standard type of heavy tide valve.



The Pile Driver.

The work afforded many difficulties. Not only was much of it tidal, but storms and bad weather caused considerable delays and much damage. The foreshore section of the work suffered from a very severe storm in August, 1931, while in November of the same year, £20,000 worth of damage was done in 24 hours by an even greater storm.

During the original construction, the Min-y-Mor section proved most difficult of all lengths of foreshore, and it was to this section that expensive damage occurred, 700-ft. of front being smashed. After consultation with Sir Cyril Kirkpatrick, it was decided to utilise the lower steps to form a first line of defence and behind this construct a new toe wall protected by No. 3 Larssen Steel Sheet Piling. The reconstruction of this damaged portion is illustrated in the 2nd typical section. The old damaged work was demolished to a distance of 29-ft. seaward of the coping line and behind this a new and stronger apron was constructed, the gap between the two being made good with concrete.

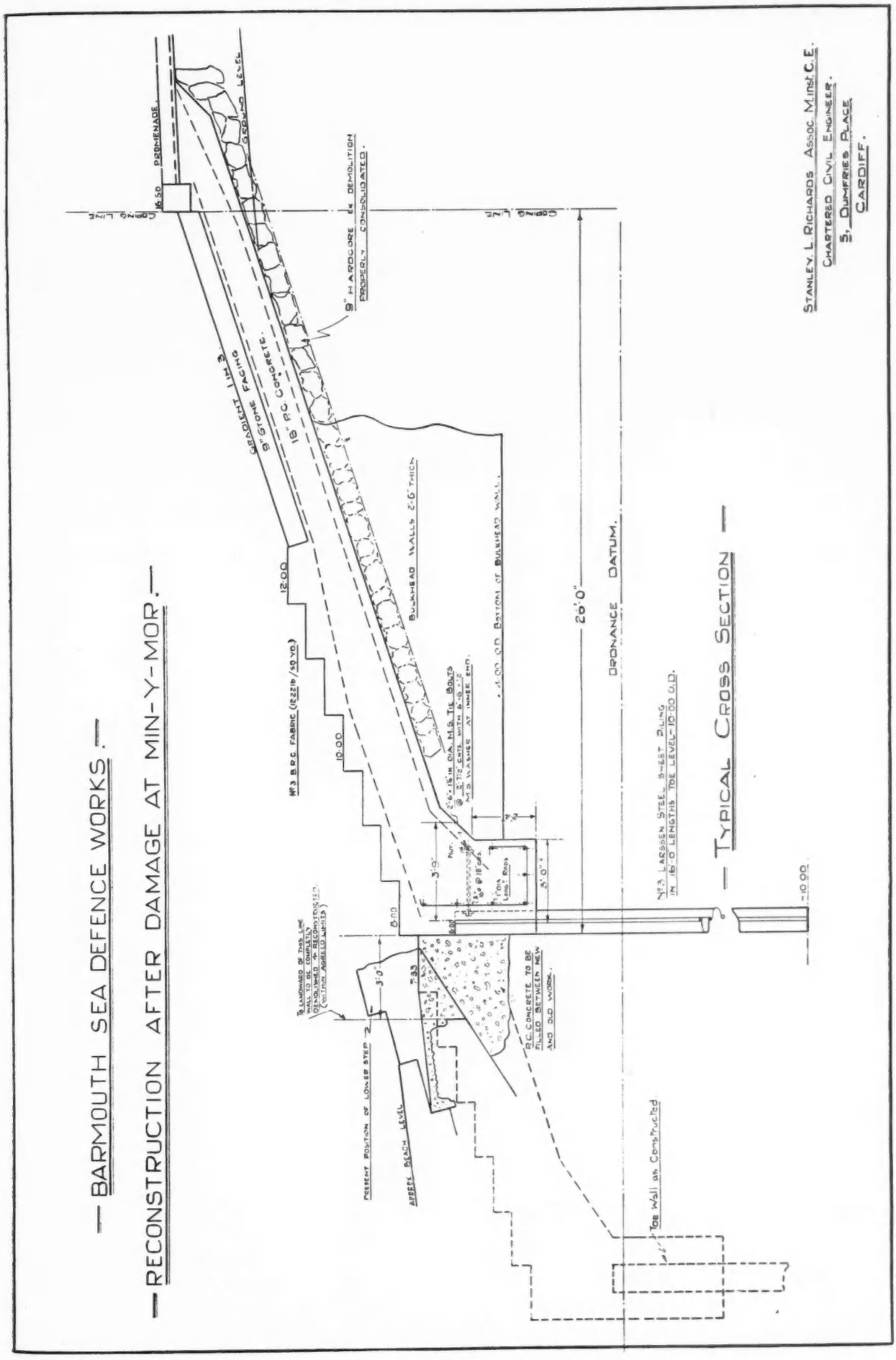
A chase, some 8-ft. wide, was first cut along the line of the new toe wall and the No. 3 Larssen steel sheet piling was then driven 26-ft. from the coping line. At each end of the 700-ft. length, the piling was returned by corner piles into the existing toe wall on either flank. As piling proceeded, a new reinforced concrete toe wall was built behind it. As soon as this second section of the work had advanced, the old slope was demolished and the new slope, with extra reinforcement, was constructed, the whole work proceeding in echelon, thus exposing as little of the sandbank as possible during reconstruction. Cross bulkhead walls, 2-ft. 6-in. thick were built at intervals to localise any damage which might occur.

As a result of the experience gained in this storm, it was realised that the back slopes of the sandbank should also be protected, and with the aid of a further grant from the Ministry of Health, this was done by pitching the back slopes with local stone set in cement mortar, and by providing a second masonry protective wall on the landward side of the road and footpath.

Another of the difficulties experienced in the carrying out of the toe wall, was keeping excavations dry. It was generally found that the best unit length to excavate was 20-ft., as it was possible to keep such a trench dry with a 4-in. double diaphragm pump and to concrete between the tides the whole of the toe wall section to a level of 1-ft. below the bottom step.

The excavations everywhere were timbered with 9-in. by 3-in. sheeting, which was driven in by mauls and extracted with a runner drawer, or by steam crane if available. The contractors also used a pneumatic pile driver where the ground consisted of sand or clay. In shingle, however, this was not successful. It was found that a 6-in. agricultural drain laid at the bottom of the trench on the landward side and discharging into a

Barmouth Sea Defence Works



Barmouth Sea Defence Works—continued

Constructing the Concrete Steps forming the lower part of the Apron.

sump, excavated outside the trench on the landward side, proved very successful. Pumping undoubtedly extracted a considerable proportion of cement from the concrete in the bottom foot, but above that level no such difficulty was experienced. Trial holes excavated to the level of the bottom of the concrete, generally revealed that the concrete had set satisfactorily.

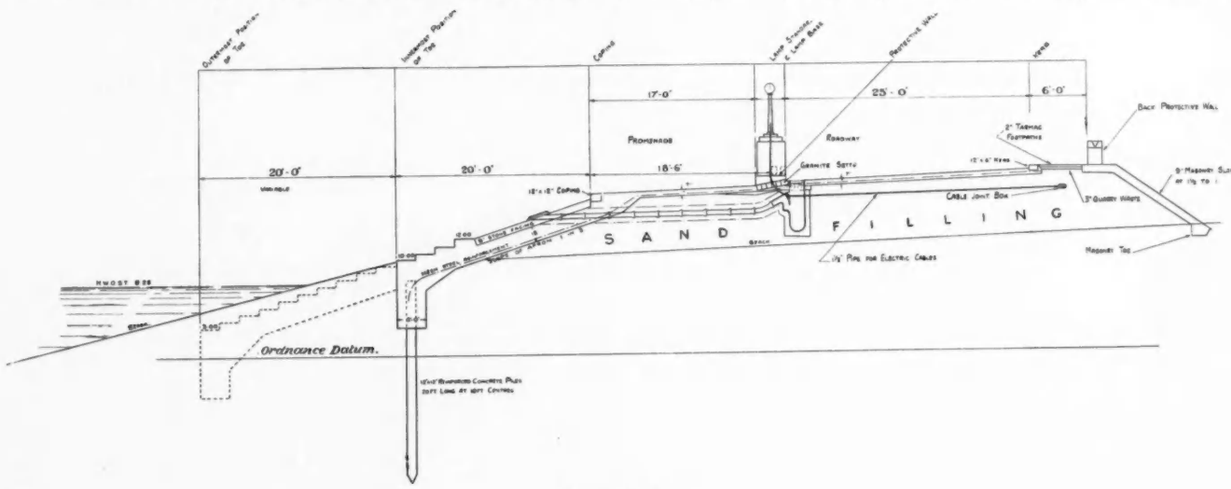
A contract was placed with Overhead Ltd., 74, Victoria Street, S.W.1, for the electric lighting of the promenade, and main cables were laid in the footpath on the landward side of the roadway. The service cables were run through 1½-in. diameter galvanised pipes under the roadway and up 47 lamp standards fitted with 12-in. white opal globes, the whole forming a very pleasing and effective lighting scheme.

Some idea of the work involved may be gathered from the fact that embodied in the work is 30,000 c. yds. of concrete, 110,000 c. yds. of sand filling, 40,000 c. yds. of stone from local quarries, 18,000 tons of Minffordd stone for the making of the apron wall, 8,000 tons of cement; 900 tons of timber were imported from overseas for the groynes and about 350 tons of British steel were used in reinforcing the concrete; 1½ miles of temporary standard gauge railway was laid on the foreshore along the complete length of the work and used for the conveyance of the materials for undertaking; it was necessary to employ 160 tons of British rolled steel sheet piling to drive into the danger sector at Min-y-Mor to protect the toe. The maximum number of men employed on the contracts on the site was just over 400, and in all, over 1,000,000 men hours were worked. The concrete used was all 4 : 2 : 1, except the pre-cast piles which were 3 : 1½ : 1. Most of the stone for concrete aggregate was quarried by the contractors locally and crushed on the site. A supplementary supply of fine chippings was brought from Minffordd by rail. The crushers were placed in a central position and the materials were run to mixer positions over a 2-ft. gauge railway worked by petrol locos. The timber and reinforced concrete piles were driven with 2-ton monkies on 35-ft. timber pile frames fitted with Sykes boilers and winches. The steel sheeting was driven by a No. 7 McKiernan Terry hammer using one of the same frames, but steaming it from a larger stationary boiler.

The Consulting Engineer for the Barmouth U.D.C. was Mr. S. L. Richards, A.M.I.C.E., of Cardiff, and his Resident Engineer, Mr. A. G. Booth.

The Demolition and Construction Co., Ltd., of 74, Victoria Street, London, S.W.1, of which Col. G. J. S. Scovell, C.B.E., is chairman, were responsible for the carrying out of the contract in its entirety, chief engineer of the work being Mr. A. M. Holbein, who came to Barmouth after seeing the completion of the Bromborough Dock Works for Lever Brothers, Ltd. Mr. F. M. Brown, B.Sc., was the agent and resident engineer in charge of the works, and Mr. A. H. Dyer, of Overhead Limited, was responsible for the supervision of the electrical installation and lighting contract.

Amongst the plant used in the construction of the Barmouth sea defence works were:—Two 3-ton Smith loco steam cranes, with ½ c. yd. grabs; one Manning Wardle steam



Cross Section.

Barmouth Sea Defence Works—continued

loco.; 24 Manchester Ship Canal side tipping wagons; 1½ miles of 4-ft. 8½-in. gauge contractors' railway track and sidings; 4,000 yards 2-ft. gauge Jubilee track; eighty 1 cu. yd. tipping skips; eight 14/10 L Millars concrete mixers; two 10/7 L Millars concrete mixers; two 7/5 L Millars concrete mixers; five 20 h.p. Simplex locos; two 15-in. by 8-in. Goodwin Barsby crushers; one 16-in. by 9-in. Mason crusher; one 12-in. by 5-in. Parker granulator; two Hopper structures and screens for grading stone; two portable steam engines by Robey; two 35-ft. pile frames by Sykes with 2-ton hammers; three 5½-in. by 5-in. Ingersoll-Rand compressors; one 35-ft. hand Scotch derrick.

Suppliers of material and plant were:—George W. Fisher, Ltd. (Liverpool)—cement; Robinson David and Co., Ltd. (Cardiff)—creosoted pitch pine; Pwllheli Granite Co., Ltd. (Minffordd)—granite pitching stone; Penmaenmawr and Welsh Granite Co., Ltd. (Trevor)—dressed Trevor granite coping stones; British Steel Piling Co., Ltd. (London)—Larssen piling; Whitehead Iron and Steel Co. (Newport)—steel reinforcement rods; British Reinforced Concrete Engineering Co., Ltd. (Stafford)—B.R.C. fabric; Twisteel Reinforcement Ltd. (Malden)—6-in. mesh "twisteel"; W. Richards and Son, Ltd. (Middlesbrough)—pile shoes; Edward W. Sisterson, Ltd. (Newcastle-on-Tyne)—rails and crossings.

Clyde Navigation Trust

THE Clyde Navigation Trust is maintaining the keenest interest in the policy of developing Empire Trade with Scotland through its port and markets, and new evidence of this is to be found in the moves which are made continuously, first with one part of the Empire and another towards attaining this object. The officer responsible for this policy is Mr. Harold M. Ford, the Clyde Trust's Commercial Manager, who during the past month has arranged some interesting and important visits by overseas representatives to Glasgow.

With the object of continuing the co-operation which has existed between the Government of Victoria, Australia, through the late Agent-General, Sir Walter Leitch, and the Clyde Trust, a visit was paid by his successor, the Hon. Richard Linton, who carried out an extensive three days' itinerary in Glasgow and Edinburgh, under the auspices of the Clyde Navigation Trust. The object of the visit was to enable the new Agent-General to become fully acquainted with the trade and marketing facilities offered in Glasgow as the marketing centre for Scotland, the North of England and Northern Ireland, so as to enable him to give his assistance and co-operation in the future commercial development of trade between Australia and the Clyde. His itinerary included conferences and discussions with the Commercial Manager of the Clyde Trust and some forty traders and merchants in Glasgow, all interested in the promotion and development of trade with Australia.

Mr. Linton also visited the Glasgow Fruit and Meat Markets and the Glasgow Royal Exchange, and was further entertained to luncheon as the guest of the Lord Provost, and also of the Chairman of the Clyde Trust.

Speaking at the luncheon to Mr. Linton, the Lord Provost, in proposing his health, said that his visit was of a particular interest because they were anxious to continue co-operation between the Clyde Trust and the Victorian Government, if possible, to an even greater extent in pursuing the policy of developing trade between Scotland and the Empire. Since that movement was instituted some four or five years ago, trade in Australia's products with Scotland had been increased yearly, and another high record had been established this year—the amount of shipping and goods having just trebled.

Something like 50 new business connections had been opened up between the producing interests in Australia and the merchants and traders on the Glasgow markets.

In spite of that progress, only the fringe of the possibilities had been touched, and Australia was still lagging sadly behind not only her foreign competitors but her sister Dominions in the development of trade in these parts. It was gratifying, however, to state that, whereas four years ago not a case of Australian fruit was shipped to Glasgow, this year saw 12 shipments, totalling 250,000 cases.

Scotland's Requirements.

That by no means represented the full possibilities of our markets, and if Australia would only pay a little more attention to the requirements of the market and send us the highest quality fruit—because Scotland demanded a high-quality fruit—in good condition, selected and well packed, there was no reason why that import should not within a year or two be doubled, to the material advantage of the grower in Australia, the merchant on our markets, and the consuming public. It was amazing how this year Australian and Dominion fruit interests had continued to glut the London market with millions of cases of fruit, enormous quantities of which were sold at a figure which did not even pay the freight. It spoke well for the Glasgow market that after showing returns comparable with, and in many cases better than, the other British markets, they had been asked to take quantities of fruit railed up from London which they could not sell there. Some of the fruit in London had been sold at prices as low as 1s. 8d. per case, or a halfpenny per pound. The suggestion to Mr. Linton was that, so far as the producers of his State were concerned, it was hoped he would issue a warning against the repetition of creating gluts in London when there were satisfactory markets in the North capable of a greatly increased development.

Australia Lagging Behind.

During his visit, Mr. Linton would be meeting and conferring with about 30 firms anxious and able to promote business in Australia's products. Great progress had been made in Scotland in the development of trade with New Zealand in her meat, butter and cheese, but Australia was lagging behind, due to the fact that she continued to visualise London as the only marketing centre in Britain, and until her primary producing industries wakened up to a realisation of the fact that to build a market here the machinery of that market, namely, its own traders and its own ports and distribution facilities, must be utilised, she would never see either satisfactory progress or satisfactory returns to her producers. This week Australia had embarked upon another advertising scheme by renting premises as a display shop in the centre of the city for her products. It was not, however, inappropriate to point out that in no part of Britain were the public more keen to support their kith and kin in the Dominions than Scotland; but, however valuable these periodic appeals to Empire sentiment might be, surely the soundest form of advertisement and the most practical way to attain its object was to see that Australia's products could be found in the retail shops—of which there were some 10,000 to 12,000 all over Scotland—week by week in a fresh condition for the housewives to buy.

Opportunity for Development.

Surely, most of that desirable advertising effort would stand the risk of being largely wasted unless the shopkeeper was going to be assured of being able to obtain his supplies regularly, instead of spasmodically, as was the case at the present time.

A careful watch on the position had disclosed that for months on end during the year no Australian butter, meat, canned fruits, etc., were procurable in some of the principal stores and shops in Glasgow.

If that could be said of a great city such as Glasgow what must be the position in the hundreds of towns and villages spread all over that area of which Glasgow was the economic centre of supply and distribution? The remedy lay in the hands of the Australian people themselves. Australian producers had only to stretch out and take the hand of co-operation extended to them by Glasgow traders to get over the difficulty. The establishment of direct contact between producing interests of Australia and the merchant interests of Glasgow had done more than anything else to set the wheels of trade in motion.

Empire Trade Enthusiasm.

Mr. Linton, acknowledging the toast, said that as a result of the interviews he had already had with importers he was greatly impressed with the evidence of enthusiasm relative to the development of Empire trade. It was most encouraging to him to find that enthusiasm in Glasgow. He had had sufficient proofs submitted to him to show definitely that they had only touched the fringe of possibilities of increasing trade between the Dominions and other parts of the British Empire. In the past they had not sufficiently appreciated the possibilities of expansion, and he hoped that before his term of office concluded he would be able to walk through the markets of Glasgow and see very little else but goods from the Dominions and Colonies. The prosperity of the Mother country and of the Dominions depended entirely upon reciprocity in trade relations.

As a commercial man, his only selling point was sentiment. He did not wish for anything better than that—sentiment combined with quality, continuity of supplies, and confidence on the part of the customers, who were the final arbiters. If they could bring these various factors together he believed they would have increased trade between all parts of the British Empire.

Clyde Navigation Trust—continued

Australia's Shipping Orders.

When they came to consider the statistics showing the exports and imports of the Commonwealth, they must remember the " invisible " trade which passed from this country to Australia in the form of shipbuilding. Australia and New Zealand had had to build for the purposes of their trade hundreds of ships, all of which had been constructed in this country. That ran into many millions of pounds, and should really be included in Australian trade. Britain was still building their ships, because Australia had not gone in for shipbuilding extensively, and that trade would go on as long as Australia knew that Britain was going to help her in her development. He acknowledged the great help the Clyde Navigation Trust were giving towards the development of Empire trade. The energy and vision which was being displayed on behalf of the Clyde Trust in developing Empire trade with Scotland not only constituted a great and important work but was most gratefully appreciated by the Governments and Producing Interests throughout the length and breadth of the Commonwealth.

Sir A. Steven Bilsland, Bt., President of the Glasgow Chamber of Commerce, said that the commercial community in Glasgow were most anxious to bind closer together the relations which existed between Australia and themselves. Australia had primary products to sell, and Glasgow had a good market with excellent facilities. But they did not wish to see a one-way traffic between Australia and Scotland; they wished to see trade going both ways. They, in Scotland, were looking forward to a revival of trade with Australia in their exports, particularly following upon the Ottawa Conference, and the manufacturers of Scotland would be grateful for any co-operation on the part of Mr. Linton in any steps he might be able to take towards assisting in this revival.

Mr. James Morton, Convener of the Traffic Committee of the Clyde Trust, in thanking the Lord Provost for his hospitality, uttered a word of warning to Australia against over centralisation. It must be obvious, he said, that such a policy of concentration of marketing and supplies on one given centre must re-act unfavourably towards the opening up of the markets of the country. It had been emphasised by their guest that Britain was her chief market, and he wished to remind those whom Mr. Linton represented that Scotland and the North of England constituted a very important part of the home market, but this market could not be satisfactorily developed with the disadvantages which the Lord Provost had pointed out of wastage in distribution. Neither could they hope to develop it unless proper use was made of the facilities provided by the traders who comprise the Glasgow market, and who are obviously better equipped to foster and promote trade than those located on other markets.

Referring to the Lord Provost, Mr. Morton said that Glasgow was indeed fortunate in having as the head of its affairs one who was showing such an intense and practical interest in the development of Empire trade through its markets, and, speaking as the member of the Clyde Trust, he wished to publicly acknowledge that ever-ready help and co-operation which the Lord Provost gave to the Clyde Trust in their efforts to promote Empire trade with the Clyde.

In an interview at the close of his visit, Mr. Linton expressed himself as highly satisfied with the result of his visit to Glasgow. Having spent two days conferring with the interests here, he said, he was satisfied that there was an opportunity of a very largely increased trade between Australia and Scotland through Glasgow. The assistance and co-operation of the Lord Provost of the city in Empire trade, in conjunction with all those he had conferred with, convinced him definitely that they were on the eve of a big development. General regret had been expressed at the difficulty of obtaining adequate supplies of Australian primary products. In fact, there seemed to be a general shortage in Glasgow and the surrounding districts. If they were to take full advantage of the Ottawa Agreement concessions to develop more trade in the Empire, this difficulty would have to be overcome for the sake of the primary products of the Dominions.

The development of Australian trade in Scotland has been largely brought about by the very active campaign conducted by Mr. Ford, the Commercial Manager of the Clyde Trust, since his visit to the Commonwealth some four years ago, and he, Mr. Linton, intended to embrace fully the Clyde Trust's invitation to co-operate in every possible way with Mr. Ford in the steps which were being taken to extend trade between the two countries. He agreed that, despite the excellent results which had so far been obtained, only the fringe of the possibilities had been touched. There was undoubtedly a great field for development, and Australia could count itself as fortunate in having such active support and enthusiasm as was being shown in this matter.

Trade with Southern Rhodesia.

Another visitor of importance was represented in the person of the Hon. J. W. Downie, High Commissioner in London for Southern Rhodesia, who, as the guest of the Clyde Navigation Trustees, spent some days with Mr. Harold M. Ford meeting and conferring with traders interested in Southern Rhodesian products, particularly fruit, meat, tobacco, maize, live cattle.

This visit was of special interest to the Fruit Trade and the Port Authority, following as it does upon the recent visit of the South African delegation, who came specially to Scotland to investigate the conditions in view of the repeated requests made on behalf of all concerned by the Clyde Trust for a development of the Scottish markets in South African fruits.

The chief difficulty up to the present has been the lack of a regular pre-arranged service of refrigerated vessels from South Africa to Glasgow, but it is hoped that next year a suitable programme will be arranged to enable both South African and Rhodesian fruits to be marketed direct on to the market instead of the present methods under which some of the most important traders in Scotland are prevented from operating, while South African producers have the disadvantage of their fruit having to meet a wastage of approximately 2s. per case through attempting distribution to the Northern markets through Southampton.

Mr. Downie met all the principal members of the Fruit Trade, who impressed upon him the desirability of immediate action by South African interests if they were to see their fruits firmly established on the Scottish markets.

He was entertained to luncheon by the Chairman of the Clyde Trust, Mr. W. F. Robertson, and also visited and discussed his mission with Lord Provost Swan and Sir Steven Bilsland, the President of the Glasgow Chamber of Commerce.

Mr. Downie also visited the markets and conferred with traders there, inspecting the supplies of meats, fruits, etc., from other countries.

It is anticipated that as a result of his visit Mr. Downie will be able to advise both his Government and the Producers of Southern Rhodesia, on the occasion of his visit there in a few months' time, as to the possibilities for increased trade in Scotland and the keen desire of all concerned to participate in that development.

Presentation to Mr. James Macfarlane.

In view of the impending retirement of Mr. James Macfarlane, General Manager and Secretary of the Clyde Navigation Trust, a presentation was last month made to him by the Trustees, of a Tea and Coffee Service, and a brooch for Mrs. Macfarlane, on his having completed, on the 1st November, fifty years' service with the Trust.

Mr. Macfarlane's family associations with the Clyde Trust date back to nearly 100 years—his grandfather being a Clyde pilot and his father storekeeper of the Clyde Trust, in addition to being Pilot Master under the Clyde Pilot Board.

Mr. Macfarlane entered the service of the Trust in 1883 as a junior clerk in the Treasurer's Department, and some years afterwards became principal clerk in the General Manager's Department. He was later re-transferred to the Treasurer's Department, where he became Treasurer, and in 1925, on the retirement of Mr. MacKenzie, he was appointed General Manager.

In making the presentation on behalf of the Trustees, the Chairman, Mr. W. F. Robertson, referred to Mr. Macfarlane's association as one of the Clyde Trust representatives on the Dock and Harbour Authorities' Association, and said that in that circle Mr. Macfarlane had made a very high place indeed for himself, and that there was no opinion more valuable or more eagerly sought by its members than that of Mr. Macfarlane.

Vickers-Armstrongs, Ltd.

Messrs. Vickers-Armstrongs Limited, Elswick Works, Newcastle-on-Tyne, have received a further order from the Great Western Railway Company for equipping ten of their hydraulic coal hoists in South Wales ports, with the "Norfolk" spade for the quick clearing of small coal from the railway wagons in which it is delivered to the docks for shipment.

Five of these "Norfolk" spades have been at work in South Wales on the Great Western Docks for some time, and two are in constant use at the Harbour Commissioner's Docks at Leith.

Floating Crane for Bremen.

The A.G. Weser ("Deschimag") have recently constructed a floating crane which is capable of handling loads of 60 tons. The capabilities of the crane have been tested by the harbour officials and the Bremer Lagerhaus-Gesellschaft; it can be used both from the quay and from the river. It has been delivered to the Bremer Lagerhaus-Gesellschaft at Harbour No. 1, Bremen.